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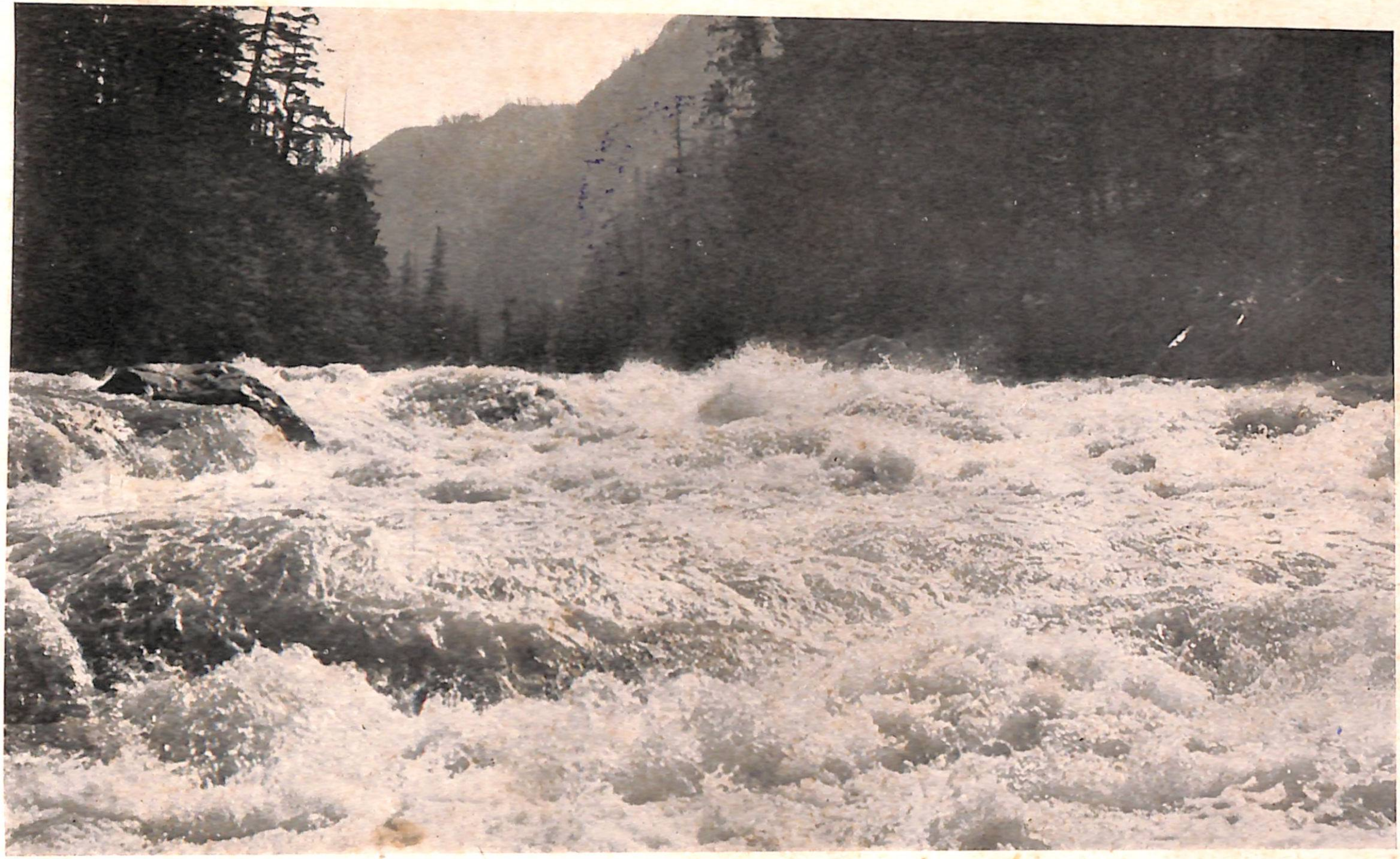
MANY RIVERS



"Rivers are your friends. They take you where you want to go."

MANY RIVERS

By

LEWIS R. FREEMAN

AUTHOR OF
"Down the Columbia," "Down the Yellowstone,"
"In the Tracks of the Trades," "The Colorado River,"
"Afloat and Aflight in the Caribbean,"
"Discovering South America,"
ETC.

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MANY RIVERS

CHAPTER I

"RIVERS ARE YOUR FRIENDS"

Swiftwater Bill, of the Klondike, Pilots Me Through White Horse Rapids and Tells Me the Running-Road Will Always Take Me Where I Want to Go.

"HAS it taken three years of college education to make you understand that your much-vaunted strength of back is more than offset by weakness of head? You've won your varsity letters in football, baseball, track and tennis inside of three years, and there hasn't been a semester's end in the whole time that you weren't on the verge of flunking out. Only good old Doc Angell's feeling that your fast arms and legs were needed to bolster up this or that sagging team has saved you from the faculty axe. Hasn't it about come to a time when you face the fact that any kind of a living you make in this world is going to be won by brawn not brain—just because Nature endowed you with a surplus of one and a shortage of the other?"

It was my college fraternity brother and roommate speaking—and earnestly, almost persuasively.

"Of what use is a university degree in a case like yours, even if you could bluff and huff and puff your way through to it?" he went on. "You are at the parting of the ways, old 'Strong-in-the-Back.' Either you go on through Stanford and become a second-class semi-pro baseballer or a tennis-bum, or you take this chance that has opened up for you to cut and run for the Klondike in the last great gold rush of our own or any other generation to come. The Great Open Spaces where men are free, and women— Well, p'raps the less said about Klondike women the better. But if it's a fact that they're paying husky young fellows thirty dollars a day just to roll the boulders off the nuggets in the streets of Dawson, that's a lot more money than you'll ever make practicing law at any bar you can hope to get called to."

I stopped Craig's mouth with a fragrant shin-guard, but that did not prevent the insidious ferment of his forthright argument from working. So it was "Klondike or Bust!"—for both of us. And the precious pair of us went busted in Skagway when the jobs for which we had contracted on the White Pass Railway proved to have been filled by hungry returning Klondikers. When these reported that there was a long waiting list in Dawson of men willing to roll boulders off nuggets on Bonanza and El Dorado for a fraction of the thirty-dollars-a-day minimum, there was nothing to do but shift as best we might with the other bums on the beach of Lynn Canal.

The two or three meals which were doled out to us when we were rounded up with the suspects for the killing of "Soapy" Smith and driving his gang to the hills proved only a stop-gap, but the fifty dollars I won beating all comers in throwing snowballs at a "nigger-baby" lasted us several hours at the crap-shooting tables. Craig, falling back apologetically on his college education, settled down to a steady job as head reporter on the Skagway-Atlan *Bulletin,* specializing on interviews with returning prospectors who claimed to have made new strikes. I embroidered most of his stories for the unimaginative chap but found it more discreet to leave him "holding the sack" when the new El Doradoes failed to materialize.

Running true to form, I clung tenaciously to brawn as opposed to brain for the purpose of eking out an existence. My most dependable bread-winner proved to be tearing packs of discarded gambling cards in competition with bar-drinking miners or sailors who had come to fancy themselves as budding Sandows. After steady practice had given me the muscle and technique to sunder in twain up to nearly two packs of not-too-heavily-glazed cards, I rarely lost an open-and-aboveboard contest of this kind.

An ever-lurking menace to my honest livelihood developed in the difficulty of collecting bets, even when the stakes had been deposited with the barkeeper to hold. Especially when perfected form enabled me to turn the trick with grace and aplomb, there was a tendency to raise the cry of fraud on the part of the loser and his backers. Barroom fighting—with chairs and cuspidors—was not in my line, of course, but the quickness of eye and foot that was a legacy of my tennis days made it possible for me to side-step the direst consequences of a rough-and-tumble provoked by my strength of hand. Only twice or thrice, when driven into a corner, was I forced to release a straight-from-the-shoulder punch. One of these nearly shattered my right wrist when its fist collided with a sack of quartz samples beneath the shaggy *parka* of a prospector from Atlan. Another, which connected with the point of a bearded chin, forced me to an embarrassed explanation before a not-too-lenient justice as to how a certain big Swede in the hospital came by his dislocated jaw. His Honor said he would write to my mother about me if ever he learned the address of the Nebraska farm from which he sensed I had run away, and warned me that it was high time to bring my barroom-brawling racket to an end.

Luck turned on what I had decided should be my farewell performance as a barroom sleight-of-hand artist. A good many had come through from the Klondike in the last day or two, intent on catching one of the faster coastal steamers scheduled to sail that night. Gold, both minted and in nuggets, was clanking on the bars and gaming tables, and among the noisy spenders was a broad-shouldered Irishman who claimed that he had put the best wrestlers in Dawson on their backs. He also knew something of the trick of tearing cards, and I have always felt that it was because he was too far along in drink to put forth his best effort that I managed to outtear him by a margin of perhaps a dozen grimy bits of pasteboard.

Introducing himself by the name of Mike Malone, he came over and congratulated me with a grip of which my crushed fingers reminded me for many a day. Some of his friends and backers were not such good sports, however, and a mutter ran along the bar. I feared it was the rumbling of another of those rough-and-tumble storms with which the Judge had warned me not to disrupt the peace of his bailiwick. But a firm hand pressed my shoulder reassuringly and a low steady English voice sounded into my anxiously cocked ear:

"My lad, I backed you less on the tip of the bartender than because I liked your cheek in pitting those young fists of yours against those of a bigger, stronger and more experienced man. How you turned the trick I don't quite twig; but, since you did it, fair and square, here goes to collect your bet and my own."

The bulge in the right-hand pocket of his checkered mackinaw was a good working imitation of the barrel of a blind-pointed six-shooter, though it may well have been merely the bluff of a stiffened index finger. But there was no hint of bluff in the cool blue eyes, and the protesting losers were not taking any chances. My sponsor took the large double handful of gold pieces counted out by the stake-holding barkeeper, but led me to a strategic corner behind the strumming piano before passing over my share.

"They're all laughing now," he said at parting; "your main danger from now on will come from the drinks they try to force on you. And don't start 'shouting the house' yourself. Leave that to the drunks."

Then, as an afterthought, as he paused in the swinging doors: "Lad, come down to the *City of Seattle* an hour before she sails tonight. There's something—probably of doubtful value—that I want to sign over to you, and there may be something you can do for me in return. A boy with a grip like yours ought to keep a bulldog hold on any bone he got his teeth into. I've just staked some claims that may be worth keeping; but I'm jumping out for home now, to enlist for the Boer War, and there's no telling when I may hit the back trail again. There's a bit of a gambling chance for both of us in it—nothing more."

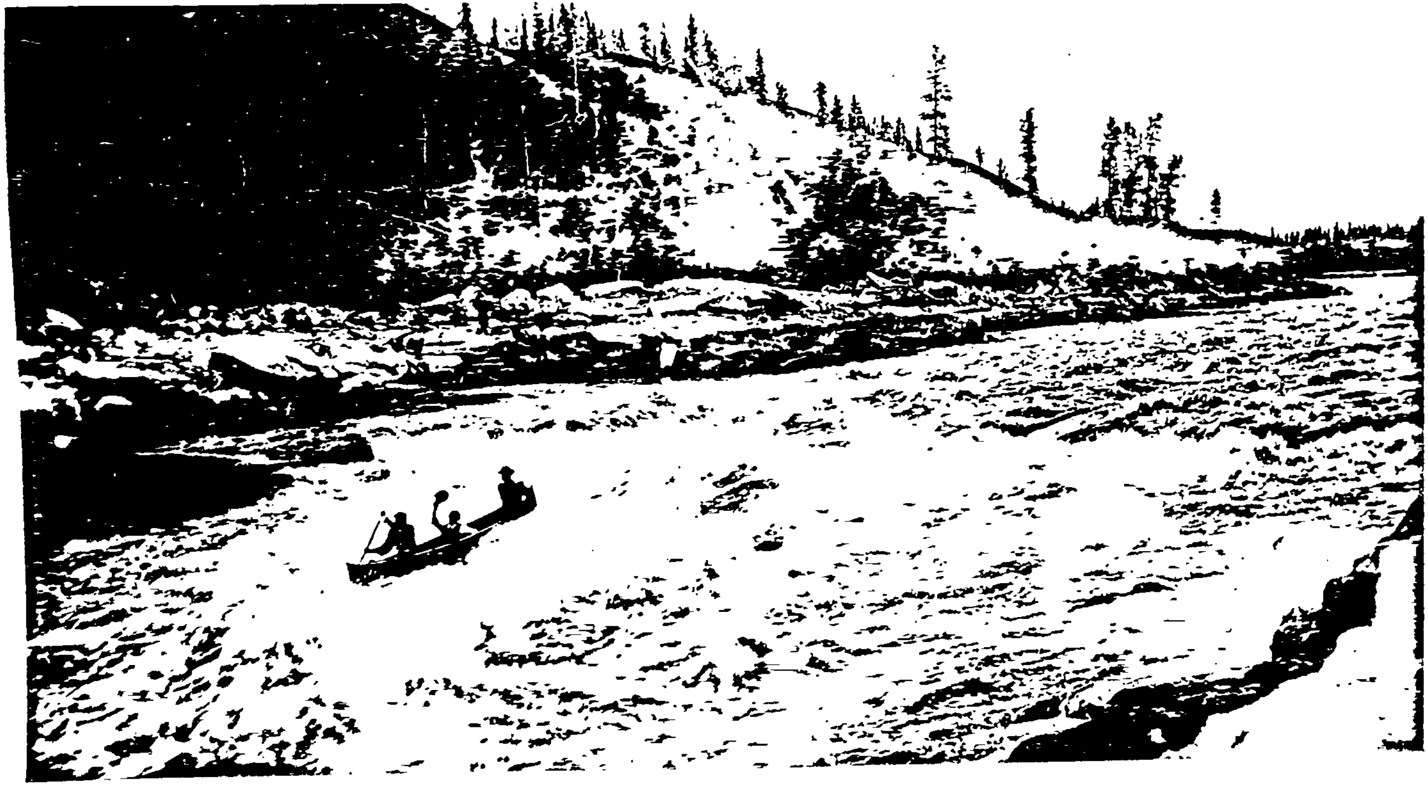
Refraining with difficulty from engaging in further card-tearing bouts, and sipping with moderation at the libations poured to my initial victory, I reported to the *Seattle* an hour after midnight. My English friend met me at the crowded gangway and led me at once to his locked stateroom, picking up a package of papers from the Purser on the way. He spread a grimy map out on the side of an old kit-bag and told in brief words how he and his partner had struck good pay on a tributary creek of the Ka Sha River, leading down to Lake Das Ah De Ash, in Canadian territory about fifty miles up the Kluk Shu River from Dalton's Post, on the Alsek. They had panned a good many ounces of gold in the day or two before his partner was killed in a rock-slide started by some animal on the upper slopes of the mountain. With the help of Indians sent up by the Mounted Police at Dalton's Post, he had done assessment work which would hold his claims for another year, when he hoped to be back to take over for himself. The principal difficulty in developing the claims would come from the shortness of the seasons. The snow was off for only a month or two in midsummer, and the rest of the season heavy avalanches would bury or sweep away any sluices or boxes left in place. Probably it was a project for men with much money who could construct the costly protective works necessary.

"Perhaps I can find the capital in London," he said, folding up the map and handing it to me. "My pater has made a pot of money in South African mines and ought not object to taking a flyer with some of it in Northwest Territory. In any event, some further work will have to be done to hold the claims, and that's where you come in, lad—in case you want to push in and look over the ground this summer. I'm making over one of the claims to you as soon as you tell me your name, and we'll have the signatures witnessed by the Captain before you push off down the gangway. There's the warning whistle now. The Skipper said he would be waiting for us in his cabin up to this time. Come along and take delivery of your first gold claim."

The next mail from the States further clinched the rivets of my newly turned luck. Enclosing a generous check, my father warmly commended me for my judgment and initiative in abandoning the pursuit of high-falutin college larnin', and making a show of myself in nose-guards and running pants, for a real he-man's gold rush, as he himself had run away from a Wisconsin farm to take the Darien route to California in "Forty-Nine." He felt that I was a chip of the old block after all, and assured me that I could count on his backing in any kind of a project I got into—just so long as it didn't have any college *rah-rahs* or checkerboard tennis pants in it. To the day of his death the dear old boy never ceased bragging about the way his youngest son had run away from Stanford to join the Klondike gold-rush, as he himself had stampeded in

"The Days of Old,
The Days of Gold,
The Days of Forty-Nine."

With the record of a proved placer claim in my pocket and the assurance of liberal financial backing to make it disgorge its golden horde, my worries as a busted Klondiker appeared about over. My only regret was that my claim was not in the storied Klondike but only some miles removed from an indirect and little-traveled trail to the main fount of nuggets. Mine would not be the thrill of rolling boulders off the auriferous layers of Bonanza or El Dorado, nor yet of throwing my poke across the bars to purchase drinks for the Dawson dance-hall girls. But if I was to be denied the ecstasy of pulling and polling my own boat of whipsawn planks in the thundering spring break-up of the Yukon, there was still time to climb over the Pass and watch some of the early starters running the swift chute of White Horse Rapids. How was it the papers put it? "The most terrible waves ever



Shooting White Horse Rapids

braved by mortal man!" or something to that effect.

The little break in the sagging snow where I drank from my cupped hand after sweating over White Pass was the beginning of the River Road for me. One way the water ran back to Skagway and Lynn Canal, whence I had come. The other way the flow was to the Yukon, the Klondike and the Pacific. How often in the decades to come was I to stand astride the backbone divides of a half dozen continents and stir my imagination of where the diverging streams ran on their way to oceans half a world's width away!

There was no hint of the hectic rush which had characterized them a year or two previously when I mushed through the melting snow to the camps on the marge of the gathering lakes. The Atlan gold strikes had drawn all the footloose prospectors, and those preparing for the Yukon voyage were mostly freighters lured by the surer stake of Dawson prices. At one point, where they were whipsawing planks and building and calking boats, a large and almost round hunk of white quartz had just been brought. The prospector, who claimed to have staked the ledge from which he had hammered his samples, estimated that the fragment, weighing perhaps fifteen pounds, contained over a hundred dollars in its veining of free gold.

But gold in quartz meant little to men surfeited with the easy-to-hand placerings of the Klondike. Far from becoming excited over a strike which would have set California or Colorado wild, these nonchalant freighters had merely borrowed the precious hunk for a contest in weight-throwing. Some of the more powerful of them had made some really creditable tosses—throws which I had difficulty in equaling until I added the little hitch-kick which old Rolly Wilbur had taught me in an endeavor to bring my shot-putting up to a class with that of California's redoubtable Bob Edgren.

I had just topped the best mark by a good four or five feet, when a quick-stepping little man in beaded moccasins and an embroidered cariboo-hide shirt jumped out of a laden batteau from which he had been watching and came over and clapped me on the shoulder.

"You're wasting your time pitching gold around, kid," he said with a genial grin. "Whether you know it or not, you were born to pull a boat; and a man who can run a rapid is worth more than a common picker-and-shoveler of gold any day. Never mind if you never pulled anything larger than a skiff in a park. You were made for better things, and I wouldn't be doing my duty if I didn't prove it to you. See that little batteau over there 'gainst the bank? I was going to use them three hulking breeds to steady it down through White Horse. And now I'm going to do it with you alone, just using the breeds for shifting ballast. That middle thwart is rigged so that a man with arms as long as yours can handle two oars from it—if he's got the strength and the guts. And I'm gambling a load of liquor that I reckon on needing pretty bad a few months later that you aren't going to turn us bottom up. P'raps I'll find a place for you to push on through to Dawson with me a week or two later. Not much work there now, though, 'less you play the piano; and you look too good a kid for that."

When I told the forthright little fellow that I already had a claim on the Ka Sha, up above Dalton's Post, he looked interested.

"Panned all them cricks myself," he said. "Plenty of pay, but snow will never let you in long enough to get it out. Got chased by an ornery b'ar on Alder Creek and near buried in a snowslide. I've met Melton, the Johnny Bull who staked you. Quite a fav'rut with the Stick Injun gals, and a cool hand with his big Colts. Square shooter, though, and whatever he's handed you will give you a run for your money. Better'n anything I can offer you in Dawson. Well, now for our little boat ride. You can stay at my camp below the rapids tonight if you want to, or come back by the tote road this afternoon. Hardly need your snowshoes this late in the spring."

As the Indians trimmed the boat and prepared to shove off, a short-skirted girl with a mop of yellow hair tripped out of a nearby cabin and came down the bank as though expecting to step aboard. My friend checked her with uplifted hand.

"Not today, Gussie," he said a bit sharply. "We've taken on extra load and it may be a wet ride. P'raps tomorrow, on the big barge, if your restless heart still yearns for the thrill of bucking white horses. So long, dearie. And just to remind you again: the Scotch with the gold label packs fewer headaches than that yellow corn likker you fancy so much."

The peroxided mop tossed and the rouged lips pouted in pique as the would-be passenger sensed in my presence the reason she was denied a ride. The angry flip of the chemical hair and the snarl of teeth at the end of the pout seemed familiar, and presently, settling back between my long oars, I recalled where I had last seen them in play.

"Au Revoir, Gussie La Moor," I chortled airily. "So you're still grouchy over that twenty you lost on the big whiskered Swede you backed to beat me tearing cards at the Royal Bar. Do you happen to know if that jaw of his I cracked has started to knit yet?"

The Indians had pulled the boat clear of the bank now, but the owner of the craft leaned eagerly toward me across his idle steering oar.

"So you're the kid Gussie and the rest of the girls have been telling about—the one who has been skinning all the miners and lumberjacks tearing cards at the Skagway bars? I'm sure glad of the chance to take you for a boat ride. So Gussie raised a howl when she backed the wrong horse? She's bin nothing but a spoiled, squawking kid ever since the time I made a dance-hall hit of her by buying her the last eggs in Dawson at a hundred and fifty plunks apiece. She's— Whoa! Steady, kid!"

The little man broke off and leaned forward to keep me from toppling over backward when I caught crabs with both oars as the import of that revelation about the costly eggs sank home to an awakened imagination.

Resuming my interrupted stroke I started to blurt: "So that means you're—"

There was mock grandiloquence in the gesture of the steering paddle with which my sudden surmise was completed.

"William Gates, better known as Swiftwater Bill. At your service, Kid Card-Ripper and Tosser-of-Quartz! That Daniel Webster head of yours may be all a bluff, but you've sure got something in your back and arms. I'm only sorry you weren't here to work with me two years ago. I'd have taken you on into the Klondike and staked you next to me on Bonanza. Now you'll do better to take your fling in Dalton's Post way. Won't even promise you a lively run through White Horse. This load of likker's too precious. But I will call off the breeds and let you pull her alone. Not many cheechakos have got away with it on their own. But that was mostly because they didn't have little old Swiftwater at the steering sweep."

I accustomed myself as best I could to the huge, roughly hewn ten-foot oars as the half-breeds took over the drudgery of pulling down the lake. My only instructions for running perhaps the most dramatized rapid in history came in a low voice from Bill as the wind-blown manes of the white horses in the gorge ahead began to curl over and resolve into thunderous sound.

"Just dig deep enough with the oars to give me steerage way," he cautioned. "And remember the boys'll be standing by to steady her if she gets away from you. Can't take no chances with the twenty-year-old Bourbon. Now—just easy and slow. No need to look back over your shoulder, kid. It's me as is doing the piloting. There! The cradle starts to rock. Listen to the lullaby of White Horse, kid, but don't let it sing you to sleep."

The heavy roar of the half-breaking combers was perhaps the most disconcerting feature of the White Horse overture, but my steadying nerves told me almost at once that there was more bark than bite in the ominous diapason. Green as I was to rough water, it was plain that the great waves were caused by the surge of the deep-rolling waters rather than by rocks dangerously near the surface. This kind of rollers can upset a carelessly handled boat, as I was to have evidence of many times in the years to come; but that particular batteau, having a priceless alcoholic cargo, was being carefully piloted by a master hand. I floundered awkwardly with the heavy oars, of course, as one always does in broken water; but the nodding to left or right of the muskrat cap above the flexed steering oar gave me enough of a cue to maintain the necessary way over the current. There was a thrill in the lively run but little of the terror that had been written into the newspaper yarns of the desperate "race with death" braved by the Klondike argonauts in winning through to the Yukon.

A chance to get back to White Pass with a railway surveying outfit robbed me of a night with Bill in his camp below the rapids.

"You put up a good show for a starter," he said in parting. "One day p'raps I'll have a chance to pilot you through a really ornery rapid—one where the rocks are ambushed to bite you at every turn. Mebbe we'll make it late this spring. I've got to go in by the Dalton Trail before long to see about some prospects I staked below Rainy Hollow. Good luck, kid. And remember that rivers are always your friends. They take you where you want to go. Don't ever be 'fraid to put your trust in water that's yearning to get home to its resting place in the sea. Remember lil' old Swiftwater Bill told you that, and you'll always be glad for connecting up with him to ride through White Horse on his summer's likker supply. S'long, kid; and don't le' me hear of you tearing any more cards at the Skagway bars. That's only one step away from piano-playing, and you pull too good an oar to sink that low, kid."

CHAPTER II

"BOSS OF THE RIVER"

How a Bear Who Appeared to Feel He Was Guardian of the Great Spirit's Gold Put Up a Death Fight to Keep the Miners from Looting It.

FROM a cannibal king on the Congo to the Duke in Scotland who allowed the officers of the Grand Fleet, based in Scapa Flow, to fish the streams of his estates, I have known a number of humans who claimed to own rivers. River-owning animals have been somewhat less frequent in my experience. Here I am setting down a few of the salient facts about Ko-not-shu, a cantankerous brown bear which drove me off the only placer claim I ever owned, his spirit remaining in possession even after I had put mushrooming soft-nose bullets through the most vital parts of his anatomy.

Apparently it was as the Indians said. You could kill old Ko-not-shu's body but his spirit was immortal. And since it was his spirit which owned the Ka Sha River and its tributaries, that would appear again in one of his cubs and keep on driving the gold-hunting palefaces from the valley. Ko-not-shu did not use gold to fill his teeth and make watches of, as was the practice of the whites, the Sticks admitted; but for some reason he just wanted the yellow metal to stay where the Great Spirit had put it, and so was devoting much time and thought to making it difficult for the gold-diggers to work. Since he was able to release the ever-hanging snowslides and rockslides at will, this had been easy so far, and would doubtless be so in the future. I might just as well realize at the outset that old Ko-not-shu was Boss of the River, and was going to remain so in spite of all the paleface magic that could be brought against him. Thus the Sticks of the Lake Das Ah De Ash region, and apparently with not a little to bolster their point of view.

My placer claim, located on what was then called Alder Creek, just above where it flowed into the torrential Ka Sha, had been signed over to me by the Honorable Aubrey Melton after a chance meeting in a Skagway bar, as I have already related. The spring thaw had come earlier than had been expected, and my sled trip in from Haines Mission along the Chilkat, Kleehena and other streams followed by the old Dalton Trail had been an arduous one. I had broken through the ice—frequently with a sled or pack—of every torrent between Lynn Canal and the upper Alsek, giving a somewhat ironical tinge to Swiftwater Bill's admonition about rivers being my friends. But this was only an unseasonable interlude.

Arriving at the Mounted Police Barracks at Dalton's Post, I learned the interesting news that Melton, who appeared to be a scion of a prominent noble British family, had turned his claims over to a syndicate and gone on to the Boer War according to his original plan. The necessary assessment work was already provided for, and, if the summer's showings were encouraging, development would go on for the future in a big way. The title to my own claim was confirmed, with provision that it revert to its original staker only if I did not, or could not, carry on with it.

While the Police and the other whites at the Post were convinced that the snows would always make the recovery of Alder Creek's undeniably rich placer deposits prohibitively dangerous and costly, everyone was most kindly and considerate in helping me get a working outfit together at a cost I could afford and in arranging for my transport on to Lake Kluk Shu and the Ka Sha. One of the presents which most tickled my boyish fancy was a fine German Mannlicher rifle, which Jack Dalton—blazer of the trail that bore his name—passed on to me with his good wishes. With an ordinary Winchester selling across the counter at the trading post for two hundred dollars, only generous Jack could have estimated what might have been charged for this magnificent sporting rifle, which had been left by a Prussian Count as part payment on an unliquidated bill.

Jack Dalton, I might add, was popularly credited with being a very near relative of the brothers of the gang of the same name notorious for the Kansas Bank and train robberies of some years earlier. Be that as it may, there was no question that the steel-eyed Dalton of this time was four-square with the Law and fully in the trust and friendship of the Mounties. His record as a Northwest pioneer and trail-blazer is a brave and enviable one, of which his fellow Americans may well be proud. If that princely Mannlicher which he lavished upon a would-be gold-digger tempted the youth to go gunning after bigger game than he was competent to handle, it was the boy's own fault. As will be seen from the chronicles that follow, he was ever prone to get beyond wading depth in all matters where rivers were concerned.

The two husky brothers from northern Alabama in whose company I had mushed through from the coast had leased claims in the Ka Sha district, and with them I pushed on from Dalton's Post. Increasing altitude made for firmer snow, and we were able to cross both the intervening lakes on the ice. I was the one, of course, who had to slip from a felled-tree bridge across the swollen Ka Sha, but even my pack of sacked flour was salved from an eddy below. When I broke through the ice a bit farther up and was bumped roughly along under a snowslide which bridged the gorge from rim to rim, one of my companions observed drily, "This rip-snortin' lil riva' seems to have got youah numbah, buddy." Prophetic words!

There were a dozen whites and perhaps a score of Indians camped above the mouth of Alder Creek, the latter mostly engaged in hunting while waiting for the first runs of salmon on the rivers below the lakes. The whites had come in to do assessment work on the recorded claims, but had so far been

"Boss o' the River" after his body was dragged out of the creek

Out for bear on Alder Creek

able to do little more than whipsaw planks and build sluices and boxes, because of the almost unbroken barrages of slides which filled the canyon. Most of them were frankly pessimistic about ever having seasons open enough to allow the construction of adequate placer mining operations.

My own claim, save for the fact that it was so deeply slide-buried that many seasons might elapse before its main gold-bearing benches could be reached by sluice, appeared to be about the pick of the lot. There was scarcely a spot along the short stretch of bedrock that had been uncovered by the early prospecting where an hour or two of panning would not yield an ounce or more of yellow nuggets, many tipping the balance at over a pennyweight. Real pay—if ever it could be got at with a proper head of water.

My immediate concern was over a place to camp. The most comfortable and convenient site was in a little grove of spruce and hemlock, almost at timber line, on my own claim. The close-growing trees furnished a windbreak and provided firewood, while a crystal-clear spring in the mountainside offered water vastly preferable to that of the turbid glacier-fed stream. Wondering why the men who had erected the tent frame and led the hollow-log trough down from the spring had ever moved, I plumped for so pleasant a home at once.

The whites, admitting that my little grove was, theoretically, the best camp site on the creek, earnestly endeavored to dissuade me from occupying it. The reach above and below my claim was worse exposed both to snowslides and falling rocks than any other part of the canyon. Most of the avalanches had come down above, as I could see; but even the sheltered grove was by no means immune from the menace. Melton's partner, Brooke, had built the camp there and insisted on living in it. He had been almost decapitated by a single rock falling from the cliff above as he was returning from his prospecting hole on the snow-covered bench. The Sticks always insisted that the rock had been thrown by a big brown bear which made his home in a cave near the snout of the little glacier a thousand feet up. More likely it was kicked loose by a mountain sheep. But the old bruin was an ornery cuss, always ready to raid an empty camp in spite of the dogs, many of which had fallen to his heavy paws. Thus the miners. The Indians told me the yarn of Ko-not-shu, which I have already set down.

Of the two arguments, the only one which seriously impressed me was the contention of the whites. Some shakes as a thrower myself—I had once won the unofficial championship of the Pacific Coast for the long-distance tossing of a baseball—I took no stock in the story of a bear that could kick a fragment of granite with sufficient accuracy to behead a man at a distance of a thousand feet. I dismissed that as pure Hiawatha stuff, based on typical Indian credulity. But if the camp among the pines was really in the possible path of snowslides, it was palpably a place to be given a wide berth. Not all my inside technique as a tearer of cards or a tosser of gold-bearing hunks of quartz would serve in deflecting a thousand-ton avalanche. The situation on that score plainly merited serious study.

The heaviest slide in the canyon had come down right across the upper end of my claim, forming a solid bank of indurated snow, ice and gravel from one wall to the other. So abrupt was the barrier on the lower side that steps had had to be cut in it to allow passage over the trail to the upper claims. That was as near as any snow had come to the site of my proposed camp. Fresh fragments of cracked granite were to be chanced on all along, but the risk of falling rock was one to be expected under any steep mountain wall, especially during times of storm or when sudden thaws released sections of the ice-locked strata. After careful study—both through my binoculars and in the course of many scrambles on foot—had failed to reveal any evidences of hanging snow directly above, which appeared likely to be precipitated other than in the form of water later in the season, I resolved to take what I did not regard as anything approaching an undue chance in pitching my camp among the spruces. Most of the miners came round to my way of thinking in the end, and many willing hands made light work of what proved to be one of the most comfortable and picturesque wilderness camps I ever occupied.

The Indians continued to mutter about old Ko-not-shu's wrath, and when a sharp-edged flake of falling shale cut a clean swath through the willows clustering about my spring, they said that was the Boss of the River taking a practice shot at his new enemy. When I located the spot where the strengthening sunlight had thawed the ice that bound together a ledge of fractured slate, I ceased to worry about the Boss's ranging shots. What bothered me more was the loss of a side of freshly killed venison, swung high in one of the trees of my camp. When the marks on the ground struck me as looking about as much like the prints of moccasins as bear tracks, I rigged up a concealed "spring-camera" in the brush, so that the culprit stealing my meat the next time would automatically leave me his photograph. Again my haunch disappeared while I was shoveling snow on the upper end of my claim. When the roughly developed plate showed an image suspiciously like that of a near relative of "Adam Zad, the Bear That Walks Like a Man," I realized that old Ko-not-shu had really flung down the gage of battle.

With a chuckle, rather more of amusement than excitement, I accepted the challenge. Frankly, I was a bit sorry for the grizzled old veteran, with his sentimental ideas about keeping the gold in the ground where the Great Spirit had put it. He had built up an impressive reputation for savagery by chivvying about Sticks armed only with bows and arrows or old black-powder muskets. Prospectors, too, with their antique arms, had been easy game for him, and even Klondikers with their more modern repeaters. But now he would have to learn what it was to face a man squinting along the barrel of the world's greatest sporting rifle. I boasted to my friends that I would write "KO-NOT-SHU" with steel-jacket bullets on the old humbug's side at three hundred yards, before lifting off the top of his pugnacious head with a "soft-nose."

As all the miners were feasting on succulent mountain sheep, which they had seen me bring down at ranges which the Indian hunters would never waste ammunition by attempting, they were too considerate to make fun of my boast —at least to my face. As a matter of fact, the superb German sporting rifle was out-shooting anything on the river. Indeed, I had rather taken pains to admit the self-evident truth— that this was due not to my greater steadiness of hand or keenness of eye, which could hardly be expected in a novice, but rather to the fact that I had been taking great care in adjusting and using incomparably better sights than those with which any of the other rifles were equipped. This was very modest of me, they all agreed—at least on the occasions when I was bringing them fresh meat to replace the tough haunches for which they had been overpaying the Indians. Novice or no novice, I was really a great shot, and they hoped I would keep up the good work. No wonder those Stick pot-shotters were jealous of me.

When a whole side of young bighorn was missing from my "meat-tree" the next morning, it was evident the moment of the final show-down was close at hand. A general wrecking of my cooking tent added insult to injury, especially as the contents of an almost full case of beef extract were numbered among the casualties. The crunched jars of concentrated cow meat were scattered all over the place, evidently having been eaten to add zest to half a sack of greedily wolfed desiccated onions.

The remains of the half-eaten sheep, including the huge back-curving horns, had been dragged up along the creek and buried in the brush of the talus pushed up by the great snow-slide. The heavily gorged marauder had apparently found the burden too awkward to drag up the almost perpendicular slope to his cave. Why bother with all that extra work when he would have to be returning shortly anyhow to regale his pampered stomach on some more of that delectably salty boiled-down beef?

The Indians whò found the buried plunder strongly recommended that I leave it where it had been hidden. Ko-not-shu would certainly return that night for his lawful loot, they said, and if he found it stolen could surely be counted upon to wreak his vengeance on my camp—perhaps upon the owner himself. I must be sure to sleep with a revolver lashed to my wrist and my trusty rifle close at hand. Jauntily I assured them that I would be ready. There was real satisfaction in the feeling that we were at last getting down to brass tacks in settling the question as to who was the real Boss of the River.

On the chance of keeping my eye in with a few shots at sheep or goats on the higher cliffs, I threw my trusty rifle across my shoulder on setting out for the morning's scratchings in my prospect holes at the upstream end of the claim. Knocking off to return to camp for lunch along toward midday, I tried a few ranging shots at the bottle-green ice along the projecting snout of the little mountainside glaicer below the south rim of the canyon. When these brought a scurrying of brown figures against the strip of green below, I pumped a half dozen bullets at the bobbing horns of a flock of frightened sheep. A couple appeared to drop and I started back to send an Indian up to drag down the fresh meat.

As I approached the end of the river-bridging avalanche, a blur of movement in the willows attracted my attention. Scrambling to the top of a granite slab beside the trail for a better vantage, I descried the unmistakable form of a huge brown bear nosing around in the debris covering the buried sheep. Ko-not-shu was apparently running ahead of schedule. Hungry after his night of unwonted exertion, the marauder had returned to forage for a daytime lunch. Realizing with an exultant chuckle that I had my arch enemy cornered at last, that he could not fly in any direction without passing across open ground where he would offer an easy mark, I resolved not to try for a decisive shot before maneuvering the hairy brown bulk into a position where it would afford a better target. Perhaps a bit of dirt in those squinting little eyes would effect that prime desideratum.

My first shot—deliberately and designedly low—created a decided diversion, but hardly the desired or expected one. Bristling and growling savagely through his mouthful of meat, Ko-not-shu wheeled around and came charging blindly in the direction of the rifle crack. A second bullet, which may well have manicured one of the bloody curving claws, turned the trick to a nicety. Wheeling sharply riverward, the great rolling body went scrambling right up to the top of the slide. Even the snoutful of carrion was dropped in the dizzy ascent, but hardly in consternation. Old River-Boss, like myself, only desired a better vantage from which to survey the field of action before deciding on the next move. He was too old and too tried a veteran to feel anything other than confidence in the ultimate outcome.

Hearing the shots and shouts of the Indians who were gathering from below, the miners had knocked off work and come swarming down the trail to see what was afoot. Those with rifles, realizing that I was about to bring my enemy to his long overdue reckoning, considerately refrained from using them. A few shouted jocosely, asking if I was going to make good my boast of etching Ko-not-shu's name on his hide; but most were content to let me finish the game in my own way.

Wisely reflecting that any decorative effects had best be added after the old warrior's hide was stretched out to dry, I made up my mind to bring the matter to an end then and there by one well-directed shot. With the great hulk silhouetted from tail to ear tip against snow and sky, this appeared to involve nothing more than lining up eye, sights and that portion of the upreared anatomy which seemed most vulnerable to puncture. Figuring that a head shot might result in the deflection of a bullet from a hard skull, I conservatively held the silver sight tip on that section of chest behind which I reckoned the stout old heart was throbbing and pulled the hair-set trigger.

The result—startling, even dramatic as it was—proved far from being what I had anticipated. Instead of the down-crumpling general collapse of the great frame I had expected, Ko-not-shu merely reared up on his haunches, at the same time raising both paws to his forehead in what might have been a sort of mock salute. So much did it look as though my quarry was making fun of me and my marksmanship that a roar of laughter went up from the knots of miners along the trail, several of whom, assuming that I had missed at the ridiculously short range, began unslinging their rifles. Some of them admitted later that they thought I had a touch of "bear-fever," losing my nerve at my first show-down with real game.

As a gesture, that dramatic uprearing against the sky was effective enough; as strategy it was a costly play to the gallery. For the pause was just sufficient to give me a lucid interval in which to realize that I had discharged the shot which was intended to give the *coup de grâce* with the sights still set for the five hundred yards at which I had fired at the running sheep far up the mountainside. Also that the magazine still contained a number of cartridges carrying steel-jacketed bullets, which were designed for penetration rather than for shattering and disabling power.

The few seconds that were required to lower sights and change ammunition were also enough to give the other party to the dispute time to reconsider the situation facing him. When again I squinted along the blue-black barrel it was at a shuffling, shambling figure which had settled to all fours and was descending the slide with the relentless gait of a savage beast of prey which stalks its certain kill. My next bullet, planted close to the spot intended, staggered but did not halt the deliberate advance.

Two more mushrooming "soft-noses" had driven home to the same vital spot before the groping paws stumbled and sent The Boss tumbling into the river which he had defended and which now was his own last line of defense. The boiling torrent swirling above the slide hid the rumpled shoulders from my questing sights for a moment, but when they appeared again it was in an eddy which, bearing the bullet-riddled body swiftly upstream, seemed about to offer it a feasible landing on an outreaching bar of gravel.

Fully maintaining his sense of direction, old Ko-not-shu struck out boldly for his objective. Only a few feet above that shelving beach were the man and the pop-gun that were making all this trouble. Once let him get his jaws and paws on them and the pestiferous pair would cease their annoyances for good.

No use to aim for a vulnerable spot on that reeling target now. Continuing to fire at every patch of fur that showed, I exhausted my last cartridge just as the eddy carried the fumbling paws across the tip of the bar and surrendered the rolling body to the main set of torrent, which promptly plastered it across the mouth of the icy tunnel where the river plunged under the slide.

There was an ominous grin on the snapping jaws which flashed up at me as a group of miners from a neighboring camp picked me up and carried me shoulder-high down to lunch on a "mulligan" made from one of the sheep I had contributed.

"No use wasting more valuable cartridges on The Boss," they said. "Best save 'em for eatable game. You're the provider for all the Canyon now. We'll lassoo the remains and skin 'em for your tent rug when they lodge in the big whirlpool below the bend. Everything floatable stops there on the way out. An' The Boss won't leave his river anyhow till he's chopped up for stews and doormats."

The last bottle of "medicinal" Scotch was brought out in honor of the occasion, and we had lingered for an hour over this when festivities were interrupted by a great roaring from the gorge of the upper canyon. Presently, flooding far up over the lower benches as it rolled downward, was a huge wall of water and ice. Just what had happened at the slide on my claim we could only surmise, but evidently the tunnel under it had been choked by ice and driftwood packing in around the body of The Boss. Augmented by the heavy noonday thawage from the snows and glaciers above, the river had been backed up until it overtopped and carried away the slide.

The only camp located near enough to the river to come within the swath of the sudden flood was my own little home among the spruces. Everything was carried away save the cook tent. Cocked up jauntily between the frame of this and the trunk of the tree from which I had been wont to suspend my newly killed game was the body of a gigantic brown bear, its jaws still gaping in an exultant grin. That triumphant leer was the only feature of a highly treasured trophy which a talented Tacoma taxidermist failed to preserve to the life.

The most unfortunate sequel to the carrying away of the great snow barrier on my claim was that the trembling of the earth accompanying it brought down a number of slides on the properties above. On most of these the snow lay so heavy that little more than pick-and-shovel prospecting was possible before the season was closed by early snows in September. I never returned to the region and the following year my claim reverted to the syndicate that had taken over Melton's holdings.

Traveling in far corners of the world for most of the decade following, it was long before I had definite word how this remote field on a tributary of the upper Alsek had fared as a gold-producer. One evening in 1916—it was the night before the attack on the Somme in which tanks were used for the first time—as I stepped out of a General Staff

Rolls-Royce in Amiens, an officer with a red tab on the cap of his Colonel's uniform rose from a sidewalk table and grasped my hand.

"Much water has run under the bridge since you tore cards in the Skagway bars," he said with a genial grin. "I've been close on your trail at times in Fiji, Kashmir and Borneo. Always wanted to thank you for making it so easy for us to recapture your claim on Alder Creek. It turned out the best of the lot, but, like all of the others, never repaid us more than a fraction of what we expended. Too much snow. Too short season. If you're going to be at the Visitor's Château a few days longer, expect a call from me. We'll have a deal to talk over. Rather busy for the next few days. Cheerio."

The promised call was never made, and many weeks later I learned the reason when I read in a London paper that Colonel Lord Melton had been given a high posthumous decoration for gallantry in action.

He was indeed a forthright and gallant gentleman and I had remembered him especially, through the years since our memorable bar-side meeting, for his sense of humor. I had always felt that he would particularly have appreciated the story of how The Boss of the River had dispossessed me of my claim.

CHAPTER III

FROM HOOFS TO HISTORY

A Bull Elk Leads Me to the Source of the Yellowstone, and the Yellowstone Bears Me Through Yankee Jim's Canyon to Calamity Jane.

THE first true Continental Divide which I ever bestrode and looked down upon a pollywog pool hesitatingly making up its mind which of two major oceans it would ultimately augment was that between the Yellowstone and the Snake. The place of the Parting of the Waters was called Two Oceans Pass and doubtless bears that appropriate name to this day.

I had not come rolling up to the roof of the Rockies seeking the dramatic divide, but rather found myself there at the climax of the first of my many boyish attempts to photograph wild life in its native habitat. A belligerent bull elk, which had turned at bay under the very drip of the eaves of the Yellowstone, was my inadvertent guide to the "Fount of the Rivers' Beginning."

I was attempting a trip by ski around Yellowstone Park in the late winter of one of the last years when it was under U.S. Army control, and Scout Peter Holt was told off by Acting Superintendent Captain Goode to see that I kept out of trouble and mischief. "Soaping" the geysers to accelerate their rate of eruptive rhythm was under rigorous ban, but photographing game was permitted so long as the animals were not harmed or unduly alarmed.

Bighorns and antelopes were elusive but bears and bisons fell easy victims to my camera in the vicinity of the Canyon. I suffered a lamentable loss of nerve when old Tuskegee, said to have been the largest specimen of *Bison Americanus* in existence at the time, turned and blocked my path to protect his harem of frightened cows, but Holt's coolness pulled me out, both physically and artistically. My diary of this period records how the old Guardian of the Herd impressed me at the moment.

As he stood with his rugged form towering against the white background of the snowy hillside, two jets of steam rushing from his nostrils, his jaws flecked with bloody foam, his one eye gleaming green as the starboard light of a steamer, and his bellows of rage so deep that they seemed to come from beneath the earth, Tuskegee might have been the vindictive incarnation of the spirit of all the geysers and hell-holes of the Yellowstone bent on an errand of wrath and destruction.

Right then and there I forgot what I came for, forgot the picture I had intended to take, forgot everything but that snorting colossus in front of me and the fact that the hillside sloped invitingly in the opposite direction. Wherefore I tried to swing around, and, in swinging, turned too short, crossed my ski and fell in a heap with my face in the snow.

It was at this juncture that the imperturbable Holt saved the day by unslinging my camera and taking a snap of the snorting veteran, before yanking me to my feet and letting me coast down out of the swath of the fancied danger.

"Hold up there; 'tain't nothing to be scared of," the scout called after me. "Old Tusky won't hurt a fly nowadays. He's just posing for his picture. Now come up and get your camera and we'll kick along after the elk."

It was not until a couple of days later, well beyond the still frozen Lake Yellowstone, that we came upon the wapiti in great numbers. One frosty morning we were fortunate in encountering a herd of four or five hundred grazing where the spring sunshine was uncovering the lush grass on a broad expanse of southerly sloping upland.

Our efforts to turn the elks to the valley were only partially successful, for the main herd, as though divining our purpose, set off on a mad stampede for the mountains, and on a course which made it impossible to head them. Holt, however, at imminent risk of his neck, dropped like a meteor over the rim of the *mesa,* negotiated a precarious serpentine curve among the butts of a lot of deadfalls, and just succeeded in cutting off a large bunch of cows, half a dozen "spike" bulls and a magnificent old "fourteen-pointer."

The bulls were brave enough at the beginning of the chase, where the snow was light and the going easy. The big fellow in particular kept well to the rear of his flying family, stopping every now and then to brandish his horns and give voice to clear, penetrating cries of defiance and anger. But as the herd wallowed into the *coulée* which skirted the foot of the hills, his courage deserted him. He, in turn, deserted his family, and it was *sauve qui peut* for the lot of them. By the time our glistening hickories pulled us up on the flank of the bunch of heaving, sobbing cows, old Fourteen Points was a good hundred yards ahead, with the "spikes" scattered in between.

We easily headed the frightened cows as they floundered shoulder-deep, and I snapped them several times without much trouble. Then we turned our attention to the big bull. He, in his terror, had charged straight up the *coulée,* going into increasingly deep snow at every bound. His efforts were magnificent to behold. At times only the tips of his shining antlers were visible; again, he would break through with his forefeet and fall with his muzzle in the snow, only his wallowing hind quarters showing above the crust. At times he would be down fore and aft, only the sound of his mighty limbs as they churned the honey-combed snow telling the story of the struggle.

His agility was wonderful. Every ounce of bone, every shred of muscle, every fiber of nerve was strained to its utmost. Time and again I saw his rear hoofs drawn as far forward and as high as his shoulders in an effort to gain a solid footing. When the hold of his hind legs was lost he would reach out and bury his fore hoofs and nose in the sinking crust, and then, arching his sinewy back, try to drag his great body up to them.

As we pulled up close behind the desperate fugitive he floundered into the shadow of some tall pines where the crust, unexposed to the sun, was hard and firm. He struggled to the surface, tottered across the shadowed space and began to break through on the edge of a narrow pool which serpentined along the foot of a cliff on the farther side. Backing up, he tried a fresh place, but only to crash through with all fours. Finally, all his former courage returning with a rush, he staggered back against a dead tree, lowered his armored head and, with a shrill trumpet of defiance, dared us to come on.

That was just what we had hoped and planned for. Circling on the soft snow, well beyond the reach of a rush, I made several action-snaps before we coasted down to the brink of the narrow pool to slake our thirst and left him free to return to his family and explain his desertion as best he might. The grating of his teeth, as he ground them together in elk-ish fury, was unmistakable evidence that he was highly indignant over the whole episode.

Pointing out that some of the bark pawed by the old bull into the little pool was floating in one direction and some in another, Holt leaned back on his gee-pole and grinned.

"If you stow away on that brown shallop heading west," he said, "you will voyage by the Snake and the Columbia to the Pacific. But if you spread your duffle on that gray raft drifting east, you are slated for passage by the Yellowstone, Missouri and Mississippi to the Gulf of Mexico and the Atlantic. Which way will it be?"

"Since we've got to go back to our camp in the Emergency Cabin at the Lake anyway," I replied, "I think I'll make my start by the Yellowstone. But some day I'm going to make both voyages—all the way from snowflake to brine."

As a matter of fact, although nearly two decades—in which I voyaged most of the principal rivers of the world—were to elapse before I made the complete Columbia and Mississippi runs, I had shoved off onto the upper Yellowstone within the fortnight. To what depths and shallows this harebrained youthful escapade carried me is briefly told.

When I asked Holt if he did not think it would be a sporting thing for me to start my Yellowstone voyage from the very foot of the great falls—provided a boat could be got in there—he burst into ribald laughter.

"Only a matter of two or three thousand feet of drop in the few miles of the Grand Canyon gorge," he observed drily. "If you want to boat that after you see what it looks like when we go down to Gardiner, after another try for sheep photos next week, I'll bury any fragments of the remains the river disgorges. Best make your push-off down below Yankee Jim's Canyon, where the really bad water ends." Good advice, that —if I had known enough to follow it.

It was the near-tragic finale of a wild sheep-photographing adventure that hastened my departure from the Park, and in a perturbed state of mind scarcely calculated to incline me to sober judgment in the voyage of high emprise upon which I had determined to embark.

Holt and I had located with our glasses a large flock of fine bighorns several hundred yards below our lookout on Gardiner Mountain. The scout set off along the ridge to the windward of them, holding their interest so successfully in that direction that I was able to coast down on my skis from the opposite side and bring up almost in their midst before one of them knew what had happened. I had time for a hurried snap before they were off, and another when a swift quarter-mile coast brought me up almost on the heels of the vanguard of the flying flock.

Down a couple of hundred yards of easy slope I held even with the tail of the flock and was maneuvering for another exposure when they came out upon a stretch of almost level bench above the river and began to beat me three-to-one.

The leaders had all but reached the shelter of the timber when Holt, brandishing his pole and whooping like a wild

Indian, dropped with the suddenness of a thunderbolt from somewhere among the snowy cliffs above and turned them back. The unexpected appearance of a new enemy sent glimmering such wits as the grizzled old leader still had. With one frightened glance to where I came laboring down on him from the rear, he turned and went plunging over the rim of the cliff onto the ice and snow which bridged the river torrent, the whole flock following in his wake.

Holt, wide-eyed with consternation, was peering over the edge of the cliff as I came up, and together we watched the members of the flock pull themselves together, flounder through to the opposite bank and make off into the alder thicket beyond. The game struggle of the old patriarch was worthy of his leadership. The first to leap, his unfortunate anatomy, half buried in the yielding snow, had received the impact of more than a few of the hoofs and horns which followed.

For four or five long minutes after the last of his mates had struggled through to safety, he lay, stunned and bleeding, on a slender peninsula of firm snow which jutted out over the surging stream. As the sound of our voices, loud and tense with guilty anxiety, floated down to him, he roused, pulled himself together, and, at almost the first flounder, broke through and went whirling off in the clutch of the torrential current.

At the lower end of the cave-in his high-flung horns caught against the rim of soft ice, giving him a brief, but what we felt sure could be no more than a temporary, respite from an apparently certain fate. But we underrated the mettle of the brave old veteran, for even while his sturdy hind quarters drew down in the grip of the powerful undercurrent, one sharp fore hoof after the other gained hold on the trembling crust, and his sinewy body was almost lifted to safety before the sagging mass gave way again and left him struggling in the whirling maelstrom. Twice, and then once again, was this desperate maneuver repeated, only to end each time in the same heart-breaking failure. Every fiber of rippling muscle seemed strained to the limit in his final effort, and when the soggy ice churned away it looked certain that the river was to be the victor after all.

Such, no doubt, would have been the end had not the last cave-in carried the resolute old patriarch to a submerged bar of shingle. Here, rallying his seemingly inexhaustible strength, he gathered himself and leaped cleanly to a solid stretch of crust. A moment later he was off in the wake of the rest of the flock.

With long-drawn breaths of relief we turned and tightened up the throngs of our skis for the steep climb out of the canyon. It was not until half an hour later, when we paused for rest on the *mesa* rim, that Holt's drawling voice broke the guilty silence that had held between us.

"Young feller," he gasped jerkily between breaths, "if the old one had drownded down there, the best thing you and I could do would be to jump in the river and be drownded with him. Even as it is, if the Super ever gets wind of that monkey-show, it's me for a dishonorable discharge and you for over the border."

Just to be on the safe side, I pushed over the border on my own initiative the following morning, heading with a pack horse for Yankee Jim's place, a few miles below, where I had been assured I would find an abandoned boat that might prove just what I needed for my epic voyage from snowflake to brine. The famous frontier character was too old to consider the river trip himself, Holt assured me, but he was well worth while meeting on his own account. Also, he might be able to give some tips about navigating the tumbling rapids of the canyon which bore his name—in the event I didn't decide to push off below in the quieter water.

Before the railway was built up along the river, Yankee Jim held the gate to Yellowstone Park very much as St. Peter holds the gate to heaven. For the old army scout of the Indian Wars had graded a road over the rocky cliffs hemming in the canyon, and by this tourists were permitted to travel at so much per head. As there was no other road into the Park in the early days, Jim established more or less intimate contact with all visitors, both going and coming. Since there were several spare rooms in his comfortable cabin home at the head of the Canyon, many, like Kipling, stopped over for a few days to enjoy the fishing. The trout never disappointed them, and neither did Jim.

He undoubtedly poured some amazingly bloodthirsty tales into the ready ears of the youthful Kipling when the latter, homeward bound from India in the late eighties, made a tour of the Yellowstone. Yet it could not have been much earlier than this that Bob Ingersoll and Jim struck sparks when the famous orator endeavored to expound his atheistic doctrines on the lecture platform in Livingston. And the witty Bob admitted that on this occasion he actually found himself more preached against than preaching. People found Jim interesting and likable for diverse reasons. Those who had fished below his cabin usually spoke of their host as the most luridly picturesque liar in the Northwest. Yet a well-known revivalist once characterized him from the platform as one of the gentlest and most saintly humans he ever expected to meet outside of heaven. Kipling's comments in his *From Sea to Sea* reveal that he fully appreciated he was being regaled with some atrocious Indian yarns; yet when, spending a week-end at the great writer's home in Surrey during the war, I showed him one of my photos of Yankee Jim, he lapsed into an hour of kindly and sympathetic reminiscence.

It remained for a county sheriff whom I met in Livingston to reveal to me the secret of the old Scout's dual personality.

"It all depends upon whether or not Jim has been drinking," he elucidated. "He puts in on an average of about five days lapping up corn-juice and telling the whoppingest lies ever incubated on the Yellowstone and ten days neutralizing the effects of them by talking and living religion. Latterly he's been more and more inclining to spiritualism and clairvoyance. Tells you what is going to happen to you. Rather uncanny some of the stuff he gets off. But you're sure to get spirits in any event—if old Yankee isn't pouring 'em, he'll be talking with 'em."

But it was not the "black-bottle, whoopingest-liar, Indian-atrocity" stage that I was destined to stumble upon when I threw off my pack at Yankee Jim's Canyon on my flight from the Park and the possible consequences of having been a party of the near-drowning of the cream of the carefully protected bighorn herd. Silver of beard and hair and lamb-gentle of eye, the old frontiersman fairly swam in an aura of benevolence—and the table was bare. He raised his hands in holy horror when I begged for Injun fighting stories, and especially the tale of the squaw whose burning at the stake he had described to Kipling. He admitted such stories had been attributed to him but couldn't imagine how they got started. He had lived with the Crows and the Bannocks, it was true, but only as a friend and man of peace, never as a warrior. Far from ever having been a passive spectator of torture, he had always exerted himself to prevent it. He felt that no village in which he had lived but had experienced the civilizing effect of his presence.

Of course all this was terribly disappointing to a youth who had read of the hair-raising exploits of "Yankee Jim, the White Chief," in yellow-backed shockers, and who had looked forward for weeks to hearing from his thin, hard lips the story of the stake-burned squaw, immortalized by Kipling. Far from curdling my blood with Injun stories, Jim tried to dissuade me even from tackling my river voyage, urging that a fine upstanding fellow like myself ought to spend his life doing good to others rather than go out of his way to do harm to himself. I chaffed him into relinquishing that line by asking him if he was afraid I was going to bump the edges off from some of his canyon scenery. Finally he consented to take me up-river to where an abandoned boat was laid up, but only on condition that I should try to get another man to help me run the Canyon. He said he would give what help he could from the bank but didn't care to expose his old bones to the chance of a wetting. He thought Buckskin Jim Cutler, who owned a ranch near by, might be willing to ship with me as far as Livingston. He was not sure that Cutler had ever run the Canyon, but in any event he knew it foot by foot and would be of great help in letting the boat down with ropes at the bad places.*

We found the craft we sought about a mile upstream, where it had been left at the edge of an eddy at the last high water. It was high and dry on the rocks, and the now rapidly rising river had some ten or twelve feet to go before reaching the careened hull. Evident as it was that no boat builder, nor even a carpenter, had had a hand in its construction, there was still no possible doubt of its tremendous strength and capacity to withstand punishment. Jim was under the impression that the timbers and planking from a wrecked bridge had been drawn upon in building it. On my first visit to the Nile a few years later, something familiar in the massive Temple of Karnak must have stemmed from my memory of the solidity of that waiting barge.

Jim said that a homesick miner at Aldridge had fashioned this fearful and wonderful argosy with the idea of returning in it to his family at Hickman, Kentucky. He had bade defiance to the rapids of the Yellowstone with the slogan "HICKMAN OR BUST." The letters were still discernible in tarry bas-relief. So also the name on bow and stern. (Or was it stern and bow? I was never quite sure which was which.) *Kentucky Mule,* he had called it, but I never knew how appropriately until some years later when I became sapient of the wallop packed by the Middle Mississippi shantyboatman's delectable nectar of that name.

The fellow was lacking in heart, Jim said. He had run no rapids to speak of in the *Mule,* and if she had hit any rocks in the five or six miles of comparatively open water above, she had doubtless nosed them out of the way. The principal trouble appeared to have been that she preferred to progress on her side or on her back rather than right side up. This had caused her to fill with water, and that, while apparently not affecting her buoyancy greatly, must have made her cabin uncomfortable. Her owner abandoned her just as soon as she could be brought to bank, selling what was salvable of his outfit and leaving the rest. What Jim complained of was the chap's failure to live up to his slogan. Nothing had busted except his nerve.

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* How Buckskin Jim Cutler, after failing to join me on this occasion, was drowned while trying to raft down to Livingston to go with me on my voyage to the sea two decades later is a story which cannot be told here.

Working with axe and crowbar, we finally succeeded in knocking off the cabin of what had been intended for a houseboat, leaving behind a half-undecked scow. It was about twenty-five feet in length, with a beam of perhaps eight feet. The inside of this hull was revealed as braced and double-braced with railroad ties, while at frequent intervals along the water lines similar timbers had been spiked, evidently for the purpose of absorbing the impact of rocks and cliffs. (A refinement of the same protective idea subsequently appeared in the anti-torpedo "blisters" built along the vulnerable parts of warships.) She was plainly unsinkable whatever side was upward, but it was my idea to ballast her in an endeavor to maintain an even keel. We also hewed out and rigged a clumsy stern sweep for steering purposes, and it was my intention to have a lighter one at the bow if I was able to ship a crew to man it. I didn't care a lot for looks at this juncture, because I planned to rebuild the *Mule* at Livingston in any case.

With the aid of a couple of boys from a neighboring ranch, we launched her down a runway of cottonwood logs into the rising back current of the eddy. It was not yet sunset, so there was still time to stow a heavy ballasting of niggerhead boulders before dark. Water came in for a while but gradually stopped as the dry pine swelled from the long-denied moisture. She still rode high after receiving all of a thousand pounds of rocks, but as I did not want to reduce her freeboard too much, I let it go at that. She was amazingly steady withal, so that I could stand on either rail without heaving her down more than an inch or two. She looked fit to ram the Rock of Gibraltar, let alone the comparatively fragile banks and braes of Yankee Jim's Canyon. Never again has it been my lot to ship in so staunch a river craft.

Jim insisted on casting my "horryscoop" that night, just to give me an idea of how things were going to shape for the next week or two. Going into a dark room which opened off the kitchen, he muttered away for some minutes in establishing communication with his "littl' friends up thar." Finally he called me in, closed the door and talked balderdash for a quarter of an hour or more. I made note in my diary of only three of the several dozen things he said were on the slate.

One was "Young man, you have the sweetest mother in all the world"; another: "I see you struggling beside a great black boat;" and the third: "You will meet a dark woman, with a scowling face, to whom you will become much attached."

Now that "sweetest mother" stuff was ancient stock formula of the fortune-telling faker; and, considering what Jim knew of my immediate plans, it hardly seemed that he needed to get in touch with his "littl' friends up thar" to know that there was more than an even break that I was going to be doing some floundering around a big black boat; but how in the deuce did the old rascal know that I was going to meet the one and only Calamity Jane the following week in Livingston?

Jim was bubbling with reminiscence when he came out of his averred trance, but only in a gentle and benevolent vein. He claimed that he was able to prove that Curley, the Crow Scout, was not a real survivor of the Custer massacre, but only witnessed a part of the battle from concealment in a nearby *coulée*. When I pressed for details, however, he seemed to become suspicious and switched off to stories of Bob Ingersoll, Roscoe Conkling and that "littl' goggl'-eyed guy," Kipling.

Our plan of operation for the morrow was something like this: Bill and Herb, the neighboring ranchers, were to go up and help me push off, while Jim went down to the first fall at the head of the Canyon to be on hand to pilot me through by hand signals. If I made the first riffle without trouble, I was to try to hold the boat in an eddy until Jim could amble down to the second fall and stand by to wave me my course into that one in turn. And so on down through. Once out of the Canyon there were no bad rapids above Livingston. I was to take nothing with me save my camera. My bags were to remain in Jim's cabin until he had seen me pass from sight below the Canyon. Then he was to return, flag the down train from Cinebar and send the stuff on to me at Livingston. Looking back on it from the vantage of a number of years' experience with rough water, I recognize that decision to let the baggage come on by train as the only intelligent feature of the whole plan.

Steering a boat in swift water with any kind of a stern oar is an operation demanding a skill only to be acquired by long practice. For a greenhorn to try to throw over the bow of a barge like *Kentucky Mule* was about comparable to swinging an elephant by the tail. This fact, which it took me less than half a minute of pulling and tugging to learn, did not bother me a whit, however. I felt sure that the sturdy *Mule* was fully equal to meeting the Canyon walls, strength for strength; I know I had considerable endurance as a swimmer, and I was fairly confident that a head which had survived several seasons of old-style mass-play football ought not to be seriously damaged by the rocks of the Yellowstone.

Not one of the considerations on which my confidence was based really weighed the weight of a straw in my favor. In the long run, as I was to have driven home to me many times in later years, overconfidence in running rough water is about as much of an asset as a millstone tied round the neck. Humility is the proper thing—humility and a deep and abiding distrust of the wild beast into whose jaws you are poking your head.

As I swung round the bend above the head of the Canyon I espied the patriarchal figure of old Jim awaiting my coming on a rocky coign of vantage above the fall. A girl in a gingham gown had dismounted from a calico pony and was climbing up to join him. With fore-blown hair and skirt she cut an entrancing silhouette against the sun-shot morning sky. I think the advent of that female spectator had a deal to do with the impending disaster, for I would never have thought of showing off if none but Jim had been in the grandstand.

But something told me that the exquisite creature could not but admire the *sang froid* of a youth who coolly let his boat drift while he stood up and took a photograph of the thundering cataract over which it was about to plunge. And so I did it—just that. Then, waving my camera above my head to attract Jim's attention to the act, I tossed it ashore. So far as I was ever able to recall afterward, that was about the only sensible thing I did in my run through the Canyon.

As I resumed my steering oar I saw that Jim was gesticulating wildly in an apparent endeavor to attract my attention to a comparatively rock-free chute under the left bank. Possibly if I had not wasted valuable time displaying my *sang froid* for the benefit of the gallery I might have worried the *Mule* over in that direction, and headed right for a clean run through. As it was, the contrary brute simply took the bit in her teeth and went wallowing straight for the reef of barely submerged rock at the head of the steeply cascading pitch of white water. Broadside on she sank into the hollow of a refluent wave, struck crashingly fore and aft, and hung trembling while the full force of the current of the flooding Yellowstone surged against her upstream gunwale.

Few shoot these rapids and survive

Impressions of what followed are considerably confused in my mind, but I seem to recall that things happened in something like the following order: The pressure on her upper side heeled the *Mule* far over, so that her boulder ballast began to shift and spill out at the same time that the resurgent wave from below combed in over the downstream gunwale. The more she heeled the more ballast she lost and the more water was shipped. Fortunately most of the boulders had gone before the pin of the stern sweep broke and precipitated my reeling anatomy after the ballast. The few niggerheads that did come streaming in my wake were smooth and round and did not seem to be falling very fast when they bumped my head and shoulders. Certainly I hardly felt their caroming caresses at the time, nor was I much marked afterward from these Parthian shots of my steadying ballast.

Sticking to my great curved oar I came up quickly and went bobbing down the undulating surge of the rapid, kissing off a rock now and then but never with sharp impact. I had gone perhaps a hundred yards when the lightened boat broke loose above and came barging in my wake. Right down the middle of the riffle she came, wallowing mightily but shipping very little additional water. Holding the sweep under one arm and paddling lightly against the current with the other, I waited till the bucking *Mule* wallowed abreast of me and clambered aboard. She was about a third full of water, but as the weight of it hardly compensated for the rocks dumped overboard she was riding considerably higher than before, though much less steadily.

I looked back upstream as the reeling *Mule* swung in the current and saw Jim, with the Gingham Girl at his flowing shirt tail, ambling down the bank at a broken-kneed trot in an apparent endeavor to head me to the next fall as per schedule. Poor old Scout! He had never chased anything faster than galloping Commanches before, and, now that the *Mule* had regained her head and was running away down mid-channel regardless of obstacles, he was not better than a hundred-to-one shot in the race. He stumbled and went down even as I watched him with the tail of my eye. The Gingham Girl yanked him to his feet and he seemed to be leaning heavily against her fine shoulder as the *Mule* whisked me out of sight around the next bend.

That was the last I ever saw of either of them. Jim, I read in the papers, died some years ago, and the Gingham Girl. . . . Dear me, she must be forty herself by now and the mother of not less than eight! Even a dozen is reckoned a conservative family on the Yellowstone.

With the steering oar permanently unshipped, there was more difficulty than ever in exercising any control over the balkiness of the stubborn *Mule*. After a few ineffectual attempts to swing the bow to meet the breaking waves, I gave up trying to do anything with the sweep and confined my navigation to fending off with a cottonwood pike-pole. This really helped no more than the oar, so it was rather by good luck than anything else that she hit the next pitch head on and galloped down it with considerable smartness. When she reeled through another rapid, beam on, without shipping more than a bucket or two of green water, I concluded my shallop was fully able to take care of herself and so sat down to enjoy the scenery. I was still lounging at ease when we came to a sharp right-angling notch of a bend where the full force of the current was exerted to push a sheer wall of red-brown cliff out of the way. The *Mule,* not unnaturally, tried to do the same thing. That was where I discovered I had overrated her strength of construction.

I have said that she impressed me at first sight as being quite capable of nosing the Rock of Gibraltar out of her way. This optimistic estimate was not borne out. That little patch of cliff was not high enough to make a respectable footstool for the guardian of the Mediterranean Gate, but it must have been quite as firmly socketed in the earth. So far as I could see it budged never the breadth of a hair when the *Mule,* driving at all of fifteen miles an hour, crashed into it with the shattering force of a battering ram.

Indeed, everything considered, it speaks a lot for her solidity of construction that she simply telescoped instead of resolving into cosmic stardust. Even the telescoping was not quite complete. Although there were a number of loose planks and timbers floating in her wake, the hashed mass of wood which backed soddenly away from the cliff and off into the middle bulge of the racing current again had still a certain seeming of a boat—that is, to one who knew what it was intended for in the first place. With every plank started or missing, however, water had entered at a score of places, so that all the buoyancy she retained was that of floating wood.

The *Kentucky Mule* had ceased to be a boat and had become a raft, but not a raft constructed on scientific principles. The one most desirable characteristic of a properly built raft of logs is its stability. It is almost impossible to upset. The remains of the *Mule* had about as much stability as a toe-dancer, and all of the capriciousness. She kept more or less right side up to the head of the next riffle and then lay down and negotiated the undulating waves by rolling.

It was not until some years later, if I remember aright, that stout women adopted the expedient of rolling to reduce weight. *Kentucky Mule* was evidently well in advance of her times, for she reduced both weight and bulk all of a quarter in that one series of rolls. I myself, after she had bucked me off at the head of the rapid, rode through on one of her component planks; but my mount was a railroad tie, with a big spike in it which rasped me over the ear when we romped into the merry-go-round of the whirlpool at the foot.

And so I barged on through to the end of Yankee Jim's Canyon. In the smoother water I clung to a tie, a plank or the thinning remnants of the *Mule* herself. At the riffles, to avoid another clout on the head from the spike-fanged flotsam, I found it best to swim clear and flounder through on my own. I was not in serious trouble at any time, for the savagest of the rapids had been those at the head of the Canyon. Had I really been hard put for it, there were a dozen places at which I could have crawled out. That would have made overtaking the *Mule* again somewhat problematical, however, and I was reluctant to finish on foot. Also, no doubt, I was influenced by the fear that Yankee Jim and the Gingham Girl might brand me as a quitter, like the original "HICKMAN OR BUST" voyager.

Beaching what I must still call the *Kentucky Mule* on a bar, where the river fanned out in the open valley at the foot of the Canyon, I dragged her around into an eddy and finally moored her mangled remains to a friendly cottonwood on the left bank. Taking stock of damages, I found that my own scratches and bruises, like Beauty were hardly more than skin deep, while the *Mule,* especially if her remaining spikes could be tightened up a bit, had still considerable rafting potentiality. As the day was bright and warm and the water not especially cold, I decided to make hay while the sun shone—to push on as far toward Livingston as time and tide and my dissolving argosy would permit. But first for repairs.

Crossing a flat covered with a thick growth of willow and cottonwood, I clambered up the railway embankment toward a point where I heard the clank of iron and the voices of men at work. The momentary focus of the section gang's effort turned out to be round the bend from the point where I broke through to the right of way; but almost at my feet, lying across the sleepers, was a heavy strip of rusty iron, pierced at even intervals with round holes. Telling myself that I might well go farther and fare worse in my quest for a tool with which to drive spikes, I snatched it up and returned to the river.

Scarcely had my lusty blows upon the *Mule's* sagging ribs begun to resound, however, than a great commotion broke forth above. It presently resolved itself into mingled cursings and lamentations in strange foreign tongues. Then a howling-mad Irish section boss came crashing through the brush, called me a train-wrecker, grabbed the piece of iron out of my hand and, shouting that he would "sittle" with me in a jiffy, rushed back to the embankment.

The fellow seemed to attach a deal of importance to that strip of rusty iron. Why this was I discovered a couple of minutes later when I found him and three jabbering Italians madly bolting it to the loose ends of a couple of rails before the down-bound train hove in sight up the line.

"I'll larn ye to steal a fishplate, ye snakin' shpalpeen," he roared as the train thundered by and disappeared around the bend.

"But I didn't steal any fishplate," I remonstrated quaveringly, backing off down the track as the irate navvy advanced upon me brandishing a three-foot steel wrench. "I only borrowed a piece of rusty old iron. I didn't see any plate of fish, or even of pork and beans. I didn't even know where your lunch buckets are. I wish I did, for I've just swum through the Canyon and I'm darned hungry."

Gad, but I was glad the Gingham Girl and old Yankee Jim could not see me then!

With characteristic Hibernian suddenness, the bellow of rage changed to a guffaw of laughter.

"Sure an' this broth o' a bhoy thot a fishplate wuz a contryvance fer to eat off uv! An' it's jest thru the Canyon he's swam! An' it's hoongry an' wet thot he is! Bejabbers then, we won't be afther murtherin' him outright; we'll jest let him go back to the river an' dhrown hisself! Stip lively, ye skulkin' dagoes an' bring out the loonch!"

And so while I sat on the bank quaffing "Dago Red" and munching garlic-stuffed sausages, "Moike" and his gang of "Eyetalians" abandoned their four-mile stretch of the Northern Pacific Yellowstone Park branch to drive more spikes in *Kentucky Mule's* bulging sides and render her as raft-shape as possible for a further run. The boss led his gang in a lusty cheer as they pushed me off into the current, and the last I saw of him he was still guffawing mightily over the little fishplate joke. As a matter of fact, since Mike in his excitement appeared to have neglected to send out a flagman when he discovered his fishplate was missing, I have always had the feeling that the northbound express that morning came nearer than I did to being wrecked in Yankee Jim's Canyon of the Yellowstone.

The rest of that day's run was more a matter of chills and spills than of thrills, especially after the evening shadows began to lengthen and the northerly wind to strengthen. The *Mule* repeated her role-and-reduce tactics every time she came to a stretch of white water. There were only three planks left when I abandoned her at dusk, something over twenty miles from the foot of the Canyon, and each of these was sprinkled as thickly with spike points as a Hindu *fakir's* bed of nails. One plank, by a curious coincidence, was the strake which had originally borne the defiant slogan, "HICKMAN OR BUST." Prying it loose from its cumbering mates, I shoved it reverently out into the flood. There was no question that *Kentucky Mule* was busted, but it struck me as the sporting thing to give that one board a fighting chance to nose its way down to Hickman-on-Mississippi.

Spending the night with a hospitable rancher, I walked into Livingston the next morning. There I found my bags and camera, which good old Yankee Jim had punctually forwarded by the train I had so nearly wrecked.

* * *

Thrilled with the delights of swift-water boating as they had been vouchsafed to me in running *Kentucky Mule* through Yankee Jim's Canyon, I hastened to make arrangements to continue my voyage on to the sea immediately upon arriving in Livingston. A carpenter agreed to build me a special river-running skiff and have it ready at the end of three days. Hour by hour I watched my argosy grow, and then—on the night before it was ready to launch—came Calamity.

In every man's life there is one event that transcends all others in the bigness with which it bulks in his memory. This is not necessarily the biggest thing that has really happened to him. Usually, indeed, it is not. It is simply the thing that impresses most deeply the person he happens to be at the time. The thunderbolt of a living, breathing Calamity Jane striking at my feet from a clear sky is my biggest thing. One does his little curtsy to a lot of queens, real and figurative, in the course of two or three decades of knocking against the corners of the high and low places of the world, but not the most regal of them has stirred my pulse like the "Queen of the Plains." Queens of Dance, Queens of Song and Queens of real kingdoms, cannibalistic and otherwise, there have been, but only one "Queen of the Rockies."

This was not because Calamity Jane was either young or beautiful or good. (There may have been times when she was young, and possibly even good, but beautiful—never.) So far as my own heart-storm was concerned, it was because she had been the heroine of that saffron-hued thriller called *The Beautiful White Devil of the Yellowstone,* which I had devoured in the haymow of our California cow barn in my adolescence. The fragrance of dried alfalfa brings the vision of Calamity Jane before my eyes even to this lady. She is the only authentic flesh-and-blood heroine ever to come into my life.

My initial meeting with Calamity was characteristic. It was a bit after midnight. On my way back to the old Albemarle to bed I became aware of what I thought was a booted and spurred cowboy in the act of embracing a lamp-post. A gruff voice hailed me as I came barging by.

"Short Pants!" it called. "Oh, Short Pants—can't you tell a lady where she lives?"

"Show me where the lady is and I'll try," I replied cautiously, edging in toward the circle of golden glow.

"She's me, Short Pants—Martha Cannary—Martha Burk, better known as Calamity Jane."

"Ah!" I breathed, and again "Ah!" Then: "Sure, I'll tell you where you live; only you'll have to tell me first."

And thus quietly was ushered in the greatest moment of my life.

Calamity, it appeared, had arrived in Livingston from Bozeman that afternoon, taken a room over a saloon, gone out for a convivial evening and forgotten where she lived. She was only sure that the barkeeper of the saloon was named Patsy, and that there was an outside stairway up to the second story where she had pitched camp for the night.

It was a long and devious search, not so much because there was any great number of saloons with outside stairways and mixologists called Patsy, as because every man in every bar to which we went to inquire greeted Calamity as a long-lost mother and insisted on "shouting the house" in honor of her return. Then, to the last man, they attached themselves to the search party. When we did locate the proper place it was only to find that Calamity had lost her room key. After a not-too-well-ordered consultation, we passed her unprotesting anatomy through a window, by means of a fire ladder, and reckoned our mission finished. That was the proudest night on which I am able to look back.

When, agog with delicious excitement, I went to ask after Mrs. Burk's health the following morning, I found her smoking a cigar and cooking breakfast. She insisted on my sharing both, but I compromised on the ham and eggs. She had no recollection whatever of our meeting of the previous evening, yet greeted me as Short Pants as readily as ever. This name, later contracted to Pants, was suggested by my omnipresent checkered knickers, the only nether garment which had survived the Yellowstone.

The once-and-never-again Calamity Jane was about fifty-five years old at this time, and looked it, or did not look it, according to where one looked. Her deeply lined, scowling, sun-tanned face and the wide mouth with its missing teeth might have belonged to a hag of seventy. The rest of her—well, seeing those straight, springy, leather-clad legs swing by

“Calamity” smoking a cigar while she waits for breakfast

“Yankee Jim” at the door of his cabin

on the other side of a signboard that obscured the wrinkled phiz, one might well have thought they belonged to a thirty-year-old cowpuncher just ridden into town for his night to howl.

And younger even than her legs was Calamity's heart. Apropos of which I recall confiding to Patsy, the barkeep, that she had the heart and soul of a young god Pan.

"Mebbe so," grunted Patsy doubtfully. (Not having had a classical education he couldn't be quite sure, of course.) "In any case she's got the voice of an old tin pan." Which was neither gallant nor quite fair to the lady. Her voice *was* a bit cracked, it is true, but not so badly as the unsentimental Patsy had tried to make out.

Another thing: that black scowl between the brows belied the dear old girl. There was really nothing saturnine about her. Hers was the sunniest of souls, and the most generous. She was poor all her life from giving away things, and I have heard that her last illness was contracted in nursing some unfortunate sot she found in the gutter.

Naturally, of course, after a decent interval, I blurted out to Calamity that I had come to hear the story of her wonderful, her romantic life. Right gamely did the old dear come through. "Sure, Pants," she replied. "Just run down and rush a can of suds, and I'll rattle off the whole layout for you. I'll meet you down there in the sunshine by those empty beer barrels."

It was May, the month of the brewing of the fragrant dark-brown Bock. Returning with a gallon tin pail awash to the gunnels, I found my heroine enthroned on an upended beer barrel, with her feet comfortably braced against the side of one of its prostrate brothers. I deposited the nectar on a third barrel by the side of the queenly throne and sank to my ease upon a patch of lush spring grass and budding dandelions. Calamity blew a mouth-hole in the foam, quaffed deeply of the amber Bock, wiped her cracked lips with the slack of a sleeve, and began without further preliminary:

"My maiden name was Martha Cannary. Was born in Princeton, Missouri, May first, eighteen forty-eight." Then, in a sort of parenthesis: "This must be about my birthday, Pants. Drink to the health of the Queen of the May, kid."

I stopped chewing dandelion, lifted the suds-crowned bucket to a level with her shining eyes, muttered a fervent "Many happy Maytimes, Queen of the Plains and Rockies," and drank deep. Immediately she resumed with: "My maiden name was Martha Cannary, etc. . . ."

"As a child I always had a fondness for adventure and especial fondness for horses, which I began to ride at an early age and continued to ride until I became an expert rider, being able to ride the most stubborn and vicious horses."

Emigrating west with her family to Virginia City, Montana, in 1865, Calamity told of the delight she had found in riding with the men, having taken especial pleasure in fording the swift streams. When her father and mother died within a year or two of each other, she drifted to Fort Bridger, and from that time on frontier history was made fast.

"I joined General Custer as a scout at Fort Russell, Wyoming, in eighteen seventy," she recited. "Up to that time I had always worn the costume of my sex. When I joined Custer I donned the uniform of a soldier. It was a bit awkward at first but I soon got to be perfectly at home in men's clothes.

"I was a scout in the Nez Percé outbreak in eighteen seventy-two. In that war General Custer, Miles, Terry and Cook were all engaged. It was in this campaign I was christened Calamity Jane. It was on Goose Creek, where the town of Sheridan is now located. Captain Egan was in command of the post. We were ordered out to quell an uprising of Indians, and were out several days, had numerous skirmishes, during which six soldiers were killed and several severely wounded.

"On returning to the post we were ambushed about a mile from our destination. When fired upon, Captain Egan was shot. I was riding in advance and on hearing the firing turned in my saddle and saw the Captain reeling in his saddle as though about to fall. I turned my horse and galloped back with all haste to his side, and got there in time to catch him as he was falling. I lifted him onto my horse in front of me and succeeded in getting him safely to the fort, Captain Egan on recovering laughingly said: 'I name you Calamity Jane, the Heroine of the Plains.' I have borne that name up to the present time."

Here, little dreaming what the consequence would be, I interrupted—and for this reason: I had felt that Calamity had been doing herself scant justice all along, but in the "christening" incident her matter-of-fact recital had been so much at variance with the facts as set down in *The Beautiful White Devil of the Yellowstone* that I had to protest.

"Excuse me, Mrs. Burk," I cut in; "but wasn't that officer's name Major Percy Darkleigh instead of Egan? And didn't you cry 'For life and love!' when you caught his reeling form? And didn't you shake your trusty repeater and shout 'To hell with the pesky redskins!' as you turned and headed for the fort? And didn't you ride with your reins in your teeth, the Major under your left arm and your unerring six-shooter in your right hand? And when you had laid the Major safely down inside the fort, didn't he breathe softly: 'I thank thee, Jane, from the bottom of a grateful heart. No arm but thine shall ever encircle my waist, for while I honor my wife—' "

Here Calamity broke in, swearing hard and pointedly—so hard and pointedly, in fact, that her remarks may not be quoted verbatim here. The gist of them was that *The Beautiful White Devil of the Yellowstone* was highly colored, was a pack of blankety-blank lies, in fact, and of no value whatever save for romantic kids to read in the hay. I realize now that she was right, of course, but that didn't soften the blow at the time.

Trying to resume her story, Calamity, after groping about falteringly for the thread, had to back up again and start with "My maiden name was Martha Cannary."

She was in a Black Hills campaign against the Sioux in 1875, and in the spring of '76 was ordered north with General Crook to join General Miles, Terry and Custer at the Big Horn. A ninety-mile ride with dispatches after swimming the Platte brought a severe illness, and she was sent back in General Crook's ambulance to Fort Fetterman. This probably saved her from being present at the massacre of the Little Big Horn with Custer and the 7th Cavalry.

"During the rest of the summer of 'seventy-six I was a pony express rider, carrying the U.S. mails between Deadwood and Custer, fifty miles over some of the roughest trails in the Black Hills. As my reputation as a rider and a quick shot were well known I was molested very little, for the 'toll-gatherers' looked on me as being a good fellow and they knew I never missed my mark.

"My friend William Hickok, better known as Wild Bill, who was probably the best revolver shot that ever lived, was in Deadwood that summer. On the second of August, while sitting at a gambling table of the Bella Union Saloon, he was shot in the back of the head by the notorious Jack McCall, a desperado. I was in Deadwood at the time, and on hearing of the shooting made my way at once to the scene of the shooting and found that my best friend had been killed by McCall. I at once started to look for the assassin, and found him at Shurdy's butcher shop, and grabbed a meat cleaver and made him throw up his hands, through excitement on hearing of Bill's death having left my weapons on the post of my bed. He was then taken to a log cabin and locked up, but he got away and was afterward caught at Fagan's Ranch on Horse Creek. He was taken to Yankton, tried and hung."

Here, forgetting myself again, I interrupted in an endeavor to reconcile the facts of Wild Bill's death as just narrated with the version of that tragic event as depicted in that yellow-backed shocker of my haymow reading-room days, *Jane of the Plains*. Calamity's language was again unfit to print. Wild Bill Hickok had not expired with his head on her shoulder, muttering brokenly "My heart was yours from the first, oh my Prairie Flower!" Nor had she snipped off a lock of Bill's shoulder-long yellow hair and sworn to bathe it in the heart-blood of his slayer. All blankety-blank lies, just like the *White Devil of the Yellowstone*.

Then, as before, in order to get going properly, she had to back up and start all over with "My maiden name was Martha Cannary." This time I kept chewing dandelions and let her run on to the finish, thereby learning the secret of her somewhat eccentric style of delivery. This is the way the story of the most celebrated female character of the blood-stirring days of the Indian Wars surged on to its glamourous conclusion:

"We arrived at Deadwood on October ninth, eighteen ninety-five. My return after so many years to the scene of my most noted exploits created quite an excitement among my many friends of the past, to such an extent that a vast number of citizens who had heard so much of Calamity Jane and her many adventures were anxious to see me. Among the many whom I met were several gentlemen from eastern cities, who advised me to allow myself to be placed before the public in such a manner as to give the people of the eastern cities the opportunity of seeing the lady scout who was made so famous during her daring career in the West and Black Hills countries.

"An agent of Kohl and Middleton, the celebrated museum men, came to Deadwood through the solicitation of these gentlemen, and arrangements were made to place me before the public in this manner. My first engagement began at the Palace Museum, Minneapolis, January twentieth eighteen ninety-six, under this management.

"Hoping that this history may interest all readers, I remain, as in the older days,

Yours,
Mrs. M. Burk,

"Better known as Calamity Jane."

Calamity had been delivering to me her museum tour lecture, which had been printed in a little pink-covered leaflet to sell at the door. That was why, like a big locomotive on a slippery track, she had had to back up to get going again every time she was stopped. Oh, well, the butterfly dust from the wing of Romance has to be brushed off sometime; only it was rather hard to have it get such a devastating side-swipe all at once.

With Calamity Jane, the heroine, evanishing like the blown foam of her beloved Bock, there still remained Martha Burk, the human document, the living page of thirty years of the most vivid epoch of Northwestern history. Compared to what I had been led to hope from my romantic researches in the pages of *The Beautiful White Devil of the Yellowstone,* this was of comparatively academic interest. Reclining among the dandelions while Calamity oiled the hinges of her memory with beer, I conned through and between the lines of that record everyday for perhaps a week. Patiently diverting her from her museum platform delivery, I gradually drew from the strange old character much of intimate and colorful interest.

Circulating for three years through the upper Missouri and Yellowstone valleys and gravitating like steel to the magnet wherever action was liveliest and trouble the thickest, she had known at close range all the most famous frontier characters of her day. Naturally, therefore, her unrestrained talk was of Indians and Indian fighters, desperadoes, gamblers and bad-men generally—from Wild Bill Hickok and Buffalo Bill Cody to Miles and Terry and Custer, to Crazy Horse, Rain-in-the-Face, Gall and Sitting Bull. She told me a good deal of all of them, not a little, indeed, which seemed to throw doubt on a number of popularly accepted versions of various historical events. I made notes of all of her stories on the spot, and at some future time of comparative leisure, when there is a chance to cross-check sufficiently with fully established facts from other sources, I should like to make some record of the stirring recitals. These pages of river reminiscence from the far corners of the earth are not the place for controversial matter of that kind. "Calamity Jane, the Beautiful White Devil of the Yellowstone," deserves place, of course, but not "Martha Burk, Historian."

One morning I kept tryst among the dandelions in vain. Inquiry at the saloon revealed the fact that Calamity Jane, dressed in her buckckins, had called for her stabled horse at daybreak and ridden off down the river toward Big Timber. She would not pay for her room until she turned up again, Patsy said. It was a perfectly good account, though; she never failed to settle up in the end. I did not hear of her again until the papers, a year or two later, had word of her death. The body was to be sent to Deadwood, it was said, for memorial services and burial in the same cemetary where rested the remains of her old friend, Wild Bill Hickok.

With Romance and Historical Research out of the way, my mind turned again to the matter of the interrupted voyage down the Yellowstone. While I was giving the newly built skiff a belated trial with Sydney Lamartine, the builder, we swamped in a comparatively insignificant rapid and shared a good rolling and wetting. Agreed that the craft needed higher sides, we dragged it back to the yards for alterations. Before the job was completed I had one foot in the editorial sanction of the Livingston *Enterprise* and the other on the initial sack of semi-professional baseball team. As both footings held promise of developing into stepping-stones to the realization of my childhood ambitions (I had never cared much about being President), the river voyage to the Gulf of Mexico went into complete discard—or rather into a twenty-year postponement.

I was to be on my way to a gulf by river within the year, as it chanced, but it was to the Gulf of California, on the other side of the continent—one of the strangest voyages I ever made, and on one of the strangest streams I ever navigated.

CHAPTER IV

MUD AND MUDDIES ON HARDY'S COLORADO

A River That Was not Always a River Gives Hint of the Wonders That May Unfold When Water That Yearns for the Sea Finally Nears Home.

MY earliest memory of the Colorado River is of a thin, slithery mud—likewise my latest. The one has to do with dragging a mule team out of the bottomless bottoms of those winding back channels of the Colorado called the Pescadero and Mesquital, the other with dragging a boat for a mile through the thin red slime of silt that rims the Salton Sink. Linking these together—across a score of years or more and as many degrees of latitude—is a series of equally soft and slushy memories. Soft and slushy in a literal sense, I mean. Whatever other emotions the Colorado awakens in the breast of man, it does not inspire sentimentality. It is the links of this memory chain—the bright along with the rusty—which I am about to set a-jingle. The earliest, as I have said, has to do with trying to navigate the so-called Hardy's Colorado by mule team and scow.

The Colorado, one of the most single-purposed of streams where it has a set task before it, such as gouging out a thousand feet of Grand Canyon every eon or so, is also one of the most unstable-minded when it comes to a place like its delta, where there is considerable choice of ways and means. Spreading over hundreds of square miles in flood season and draining away with the recession wherever the silt-laden dams of the year before offered the least resistance, the river has criss-crossed the great cone of its delta with an endlessly intersecting series of back channels and overflow sinks that make travel by any established course all but impossible. The remoteness of this region and the difficulty of penetrating it for any distance conspired to convert it into one of the most remarkable game refuges the North American continent can have known in the last century.

It was the lure of this wild life that first drew me to the delta of a river which I subsequently came to know so intimately by voyaging its canyoned upper waters. The outstanding ambition of that particular stage of my adolescence was to possess a trophy room—not one in name only, but a room whose walls bristled with the horned and hairy heads of game that had fallen to my rifle. Since the extent of my trophies at this time consisted of a bear hide and two soup ladles made from the horns of mountain sheep I had brought home from my Alaska gold-rush adventure, the discovery of game on the Colorado seemed a special intervention of Providence to bring speedy and complete fulfilment of my ambition. The decoration of my trophy room was assured, and from a fount almost at its back door.

I cannot name offhand any one of God's creatures that would seem to have been created for cross-country transportation in such a land as the delta of the Colorado. Perhaps the *carabao* or water buffalo would come nearest to approximating the ideal common carrier for that region of hard blue skies and soft black mud; or perhaps a sufficiently domesticated hippo would stand the gaff. To approach anything like perfection, however, either animal would have to be crossed with a dirigible balloon, or at least fitted with a gas tank to boost buoyancy.

But if some such hybrid as this were at one end of the list, certainly the small-hoofed Mexican mule would be at the other. In truthfulness I cannot go quite as far as did my hunting companion when he said that the little brutes we chartered at Mexicali would go up to their knees in the lake of a desert mirage and over their bellies in a fresh fall of dew. But let the water table of the last overflow come within a foot of the surface, though capped with never so hard a crust of baked clay, and their flint-sharp hoofs would puncture that epidermis of indurated silt and be prodding in soft mud at the second step. We were still many miles from the heart of the game country, but even had we been in the middle of primeval Africa the aura of unrest which floated about us would effectually have precluded any stalking. We were making more tracks than we found, and much deeper ones.

We were four days reaching the first rising ground—four days spattered with mud and spangled with profanity. We said many harsh things to the mules, and they replied after the peculiar manner of their kind. All in all, I must give them the credit for winging the more incisive repartee. Human cuticle is not intended as armor against the mulish hoof. Scarred of body and draggled of spirit, we made camp where an Indian village crowned the farthest-pushed front of a cloudburst moraine from the imminent Cocopah mountains.

The Indians told us that a wheel track leading northward along the base of the mountains led to Mexicali without touching the overflow area through which we had floundered. But to the heart of the country where the game abounded there was no road that man could follow save that of the sinuous channel of the Rio Hardy. Somewhere—they could not say how many miles to the south—the Hardy found its way to the Great Red River, and at one place or another along the route would be found all those animals of which we had come in search. In case we wanted to go by the river, they knew of an old boat, brought down at the season of flood and now lying half buried in mud at the bend below.

The diametric divergence of the course of the northbound road and the southbound river brought about a dissolution of partnership then and there. My companion, pointing out that he had a law practice that required occasional attention, said that it wouldn't do to put himself out of touch with it by pushing off down a slough that might (and probably did) peter out in the tule flats a hundred miles from nowhere. I held that no kind of practice of which I could conceive could be fairly weighed against having a fine big room the walls of which were as closely set with the heads of game as its floor was strewn with their furs.

And so we came to the parting of the ways. I plumped for the river road, the golden trail of romance which led to the haunts of cougars and cannibals, jaguars and papagallos; my late companion turned back to the track which led by the alkali flats to Mexicali, and so to home and law practice. In the distribution of assets, he took over the mules and I the unconsumed grub, ammunition and goodwill, the latter to include the privilege of free legal assistance in the event of complications arising over the movement of game trophies across the international border. Thus ended what I am certain must have been the first and last attempt to navigate the depths of the delta of the Colorado by mule team.

In a class by itself in all riverdom was this Hardy's Colorado of the time of which I write. For two months of the year it flowed backward and carried fresh water from the flood of the main Colorado. At the height of this overflow it lost its identity as a river and formed only the deepest portion of a great inland lake several hundred thousand acres in extent. For the next three months it drained the brackish waters of this lake back into the Colorado and the Gulf of California, at the end of that time being little more than a great lagoon or bayou, from fifty to a hundred feet wide and, by its windings, a hundred and fifty miles long. The lower seventy-five miles of this were tidewater; that is, the high tides at the full and dark of the moon of the spring and fall months were perceptible at that distance from the point where it merged with the main Colorado. As a consequence of the fact that these tides carried inland the backed-up flow of the main river rather than the ocean brine of the Gulf, the waters of the Hardy were fresher at high than at low tide.

I should explain, perhaps, that this imposing array of facts anent the Hardy was gathered in the course of the study and observations of subsequent years. At the moment I pushed out into its sluggish current the Hardy was only to me a mystic river of enchantment, lined with golden willows and wild animals and swept by a devastating wall of tidal water called a "bore." It came from a place where volcanoes spouted hot mud and it went to a place which harbored live cannibals. Between the volcanoes and the cannibals were to be caught or killed everything that the heart of the right kind of youth could desire. And I was going to make a clean sweep of the lot and bring them home to my trophy room. Did not I have with me a two-hundred-pound sack of rock salt to preserve them, hides, hoofs and heads? I know now that it was only the autumnal tints of the over-arching willows reflected in its placid depths, but to me that evening the lazily rolling Rio Hardy was a veritable river of liquid lucent gold.

The Cocopahs of the village gave me but one warning and one direction. The first had to do with *el burro grande* which I was supposed to encounter along the way. I told them that I was through for good with mules so far as delta navigation was concerned, and so wasn't interested in rounding up this particular *burro* however *grande* it might be. It was not until some time later that I learned that *burro* was their designation of the great tidal bore. Already warned of the menace of the huge rolling wave from the Gulf, I was determined to be on the *qui vive* for it in any event. The direction the Indians gave me was in connection with digging for water by the river when my canteens were emptied. This proved entirely wrong and cost me two very trying days of thirst.

My boat turned out to be a rectangular box, four feet wide and about eighteen feet long. One end, supposed to be the bow, was sloped up in order to offer less resistance to the water. The rowlocks were holes between pieces of boards spiked to the sides. The oars were lengths of inch board nailed to willow saplings. There was a foot of difference in their lengths, and the shorter of them had been broken and repaired with a couple of rusty nails and a shoe-string. The craft was not exactly an *Argo,* in the classical sense of the word, but still it had a capacity for a considerable freight in the way of Golden Hopes; also, which was of more practical importance, for several score of heads and hides.

Pushing off at four in the afternoon, I set myself to the task of working out a system for the use of the ill-matched oars. Just where the tide would begin to make itself felt was a matter of doubt. On the vague and impressionistic map which Moberly Meadows had drawn me, the head of tidewater was indicated as in the vicinity of the S-shaped bend from which I had embarked. The incoming tide, as the hunter had described it, rushed upstream all at once in the form of a great breaking wave. This I was planning to let pass in some sheltered cove, and then, when the back flow to the Gulf began, to push out and take advantage of the swift downward current.

An hour passed by, and still nothing to speak of in the way of a current made its appearance. I was making fair headway rowing, but the work was wearing, especially as the long oar was able to outpull its crippled brother about two to one. A rest and supper on the bank suggested themselves as a welcome diversion, with a starlight row later to put me in sleeping trim.

It was an evening fit for the heroic mood of one who stood on the brink of the Golden Land of Enchantment. Sinking behind the jagged peaks of the Cocopahs, the sun had set the west aglow with shimmering scarfs of fluttering scarlet. Almost savage in its intensity where the radiating streamers threw the fanged pinnacles into blank silhouette, the all-pervading light was softened to a pink-violet where it impinged upon the purple shadows of the valley, and this, in turn, mellowed in filtering through the yellow screen of the willows, bathed the river in an ethereal glow of rosy gold.

I did not learn about it until a few years later, but it was just the kind of golden rose they used in a Drury Lane pantomime when the hero was about to set out upon high adventure. It was a lighting worthy of the occasion.

A cheerful fire of glowing mesquite knots, a brace of fried quail, rice and raisins with maple syrup, and a pot of fragrant coffee lent the climactic touch. Resuming my seat in the boat, I shoved off again, consumed with an immeasurable content that made the absence of a favoring current and the jerking of the cranky oars matters of negligible moment. A half hour of erratic pulling marred the perfection of the mood somewhat, but there was still magic in the weird beauty of the night and the eerie strangeness of the winking ebony water. When at last what appeared to be a distinct seaward set to the current became evident, I rolled up in my blankets and went to sleep. Had not Swiftwater Bill told me that rivers would take me where I wanted to go? Why not let this one do a bit of my work?

The great tidal bore, against which whites and Indians had warned me repeatedly, had been much in my mind during the evening, and my last thought before dropping off to sleep had been to wonder if I was not foolish in running the risk of meeting it on the open river, in the dark and unprepared. It could not have been long before daybreak that I was awakened by the sound of water lapping against the side of the boat and, somewhere ahead, the noise of a more violent splashing. Thoroughly aroused in an instant, I rolled from my blankets, seized the oars and began rowing madly with the idea of reaching the lee of a huge pile of drift which loomed darkly against the sky a few yards ahead.

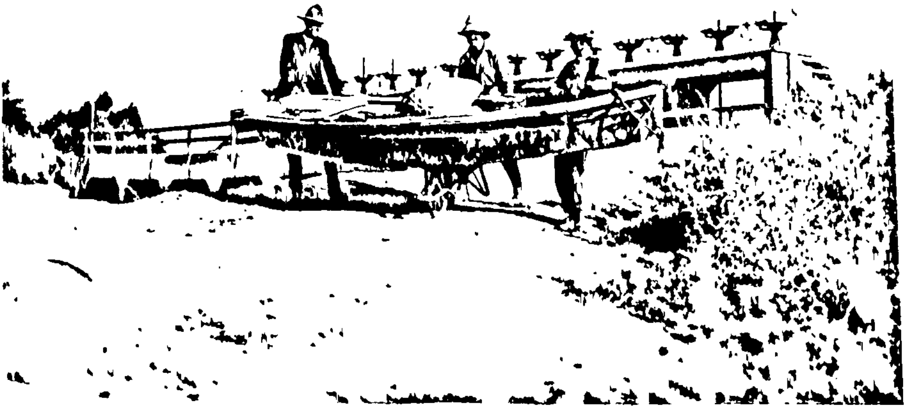
For a few moments it seemed that the effort would be of no avail, for before the old scow was well under way there came a rush of air and a roar of water out of the darkness, followed by the slap of unseen waves. Each succeeding wave struck with a sharper impact. Now they began to splash over the side, and I felt that it was only a matter of moments before the crashing comber, which I heard thundering toward me through the impenetrable blackness ahead, would reach and overwhelm my sodden old craft.

Fear lent strength—too much strength, indeed. The long left oar only pulled off one of the boards upon which it pivoted, but the crippled right brother snapped at the old fracture and left its blade dangling at one end of its shoestring wrapping. With the boat wallowing helplessly a dozen yards beyond the protecting wall of the drift, I gave up the fight and waited for the blow to fall. For fully a minute I hung thus suspended upon the tenterhooks of apprehension; then the roar began to recede and the slap of the waves to die down. Presently I became aware of the beating of wings and the cries of myriads of birds. Then I realized that dawn was breaking and the feathered life of all the river was awake and stirring.

At the end of the first bend I came upon a foundered boat, half submerged in the mud of the bank. The boxlike hull itself was smashed beyond all hope of repair, but under the broken thwarts I found a first-rate pair of nine-foot ash oars. This was the best kind of luck, and as I pulled smartly off down the winding channel in the grateful warmth of the morning sun, I tried to persuade myself that the fantastic event of the night before had been in the nature of a special intervention of Providence to prevent my passing those sorely needed sweeps in the dark. I became almost confirmed in this belief when I found that a quarter of a mile below where the disturbance had occurred the banks were not wet above the waterline.

Two miles farther along I came upon the solution of the whole baffling mystery. Driven by the newly found oars, the old tub was floundering around a bend at a spanking speed when, glancing over my shoulder to get a line on direction, I saw one of the strangest sights I ever beheld. The impression at first conveyed to my mind was of the river being strewn with Gargantuan popcorn, scattered thickly as far as

In the Colorado Delta by wagon



In the Colorado Delta by boat and wheelbarrow

the eye could reach. The next instant a hundred thousand pelicans had risen as one bird, and the raucous shrilling of their combined screams, the beating of the countless wings and the splashing of the agitated water smote on my ears with the roar of thunder. And those were no mean waves that the rushing multitude set running in its flight. For a couple of lively minutes. I had my hands full to keep the rocking boat from shipping more water than was good for guns and blankets. Doubtless this was the same flock into which I had floated just before dawn.

If anyone is skeptical respecting the possibility of a flock of these birds raising a commotion of air and water which might be mistaken in the dark, at a first experience of it, for a tidal wave or an incipient tornado, let him think of the noise a half dozen ducks stir up in leaving a pond, and then consider that a pelican weighs from six to eight times as much as a duck, that it has often a spread of wings six feet across, and that flocks of these birds occasionally packed the sloughs and lagoons of the Colorado delta from bank to bank for half a mile.

That I was at last coming to the innermost heart of the game country was evidenced by the fact that the tracks of half a dozen species of animals showed in the plastic surface of the mud beach where I breakfasted. Those of pig and deer were very fresh, and both of astonishing size. In one place a lynx or bobcat had been fishing. There were tracks both above and below the waterline, and, back a few feet, a neat round depression with the mark of a stub tail in the middle, where he had sat at ease upon his haunches and enjoyed his catch.

After breakfast I pushed off again into the lazy current, and for a half hour lay back at ease and smoked, making little movement and no sound. Ducks came spinning down the river in tight little flocks of a dozen or so, flying hard but very low and offering fine sporty shots. I floated almost into a flock of geese before a bunch of raucous-throated loons gave the alarm and set the example for a flight that the others seemed hardly to have reckoned worth while. A beaver slapped the water with its tail somewhere ahead and I raised myself on my elbow just in time to see the widening circle of its splash. A movement of what I had thought to be the dead branches of the brush above focused my glance on what proved to be a fine upstanding buck.

"Head like a young mesquite," I muttered as I reached for my rifle, but he had bolted before it was at my shoulder. The gun was still in my hands when my attention was drawn to a moving object which was running along the water's edge three hundred yards ahead. It was on the right bank, and coming toward me. For a moment, from the size, I thought it must be a mountain lion, but its darker color and "high" way of running told me it was a wildcat or a lynx, even before it showed me a side view and a stub tail. But what a cat it was! I have seen many a cougar that was smaller, and as for lynxes, never a one worthy to run in the same woods with it.

On he trotted toward me, and down I floated toward him. He was bulking bigger every second. I dropped down into the bottom of the boat, rested my rifle on the side and followed him through the sights. At a hundred yards something seemed to smell wrong, for he halted uncertainly and snatched a hasty backward glance over his shoulder. Reassured, he came trotting on again, but with suspicious sidelong jerks of his high-held head. At the end of another hundred feet he espied the boat and brought up sharply, head in the air and hind legs flexed for a spring of retreat. I had been waiting for a shoulder shot, but contented myself with what was offered.

With the leap of a hooked tuna the big cat sprang straight into the air at the bite of the bullet. He must have started spinning to the right at the flash, for that spasmodic jump landed him in the water three or four feet away from the bank. Confident that he was mortally wounded, I dropped my rifle and took to the oars, watching over my shoulder as I pulled. For a few moments, indeed, he floated as though already dead. Then, seeming to revive at the touch of the cold water, he began to flop and bite and snarl, beating the surface to a foam in his struggles. Before I had covered half the distance his flounderings had gained him a footing in the mud of the shallows, and an instant later he bounded up the bank and into the tall *carrisa* grass.

The boat went spinning back into the stream as I jumped ashore but, trusting to a propitious current to ground it on my side of the river, I took off after the lynx. A trail of water and blood led up the steeply sloping bank, and I followed this into the *carrisa,* not doubting that I had a long chase ahead. There was real surprise, therefore, in being greeted with such a sputtering yell as only an animal shot through the lungs and mad with fear and pain can utter, and in feeling the rip of claws on my leather leggings and the still more intimate crunch of a pair of fanged jaws on my knee. Frightened as I was, I still had sense enough to shorten up the hold on my carbine and fire point-blank into the sizzling ball of energy folded about my feet. Lurching back at the shot, I kicked my encumbered leg free and regained the open.

Perhaps the worst shock of all was the sight of my knee, the left one, upon which the wounded cat seemed to have expended most of his effort. The legging was splashed with blood from top to bottom, while the unprotected knee above was weltering in clotted gore. For a moment I would have sworn that the leg was bitten half through, perhaps hanging only by a shred. I seemed to recall cases of that kind, in which the mortally wounded victims continued to keep up on excitement after they had been chewed through and through by bears or lions. My own case proved not so serious. A hastily stripped knee showed hardly a nibble. The heavy leggings had fended the worst of the attack, and the blood upon them was not my own.

That brought me face to face again with the disagreeable duty of following up my quarry in the cane. After the shock of that first encounter it was a distinctly unpleasant task from every angle. But telling myself that the prize was too great a one to lose, and that, anyway, there couldn't be much fight left in a lynx that had received two soft-nosed bullets, I finally forced my reluctant feet upon the trail. I took no more chances of stepping upon the wounded animal, however. Poking ahead into the thickly growing *carrisa* with the muzzle of my rifle at every step, I felt my way along inch by inch.

I might well have been hours in running him down had it not been for that first shot through the lungs, which kept him coughing and enabled me to follow the sound. Several times I heard him crashing away from my approach, but my blind shots in that direction seemed to have no effect. The coughing had become hoarser and more sputtering now, so that I found it easier to follow. Finally the trail doubled back near to where it started. Breaking out of the *carrisa,* my quarry came to bay under a spreading willow in the comparative open of the willow bank. His chest had been pierced by my first shot, and the second, grazing the spine, had left his hind legs all but useless. But the fighting spirit was unquenched. With savage fury still gleaming from the vitreous eyes that were already glazing, he reared himself on his powerful forepaws and was coughing out the dregs of his defiance as I sped the final bullet.

Confident (as I am still) that I had killed a lynx of record-breaking size, I decided to postpone skinning the carcass until it had been measured and weighed. This could be done at the cattle camp which I had been assured I would find near the main Colorado and which I hoped to reach the following day. Retrieving my boat at the end of a quarter of an hour's walk and a muddy wade, I tossed the great body into the stern and pushed off after further adventure.

A pelican which came in the way of a charge of shot with which I had tried to wing some ducks for my supper created a lively diversion when he came crashing into my lap. Spilling a bill-pouch of live fish over my feet, he tried to replace them with an equal bulk of the calf of my bare leg. I had to choke him to death to make him let go, and then it was only a compromise. The semilunar gash on the bulge of my leg looked, and bled, as though it had been done with an axe. Recalling that the Spaniards had found the Indians of the Gulf of California using robes made of the breasts of the skins of pelicans sewed together, I resolved to keep the hide of this leg-chewing marauder as a nucleus for a rug for my trophy room. Though I probably never hit the particular bird I aimed at, two or three others always seemed to find their way across the course of the flat-nosed bullet and so remained for me to pick up after the flock had jumped off for another stage down river. By evening the pelican stratum in the stern had completely overlaid the ducks and geese, with the big lynx all but submerged.

It was about sunset that my shot into a rising flock of pelicans was answered by a crashing of the brush on the right bank and the appearance of a bunch of badly frightened deer. They were of that big rangy species called *veneda* by the Cocopahs, and even the lengthening shadows did not conceal a number of very fine heads carried by some of the vanguard. They were fair marks as they huddled uncertainly at the edge of the willows, but before I could replenish my empty magazine they were down the bank and into the water, swimming for the other side. The leaders seemed to flounder out fairly smartly through the seepage from an overflow sink on the farther side, but left behind them wallows in which those following mired badly. A belated bullet into the ruck appeared to find its billet, for as I grabbed the oars I saw a big buck with a splendid spread of horns go over on his side and cease struggling.

Just what became of that fine buck I never learned. I arrived to find a wallow of slowly heaving mud that was almost soft enough to row in. A pair of muddy heels were just disappearing into the *carrisa* as the boat eased in against the settling bank, but whether or not they were those of my quarry I could not make sure. Trying to follow them I went in to my ears at the first jump, luckily without my rifle. Having retained the painter in my hand, I had no great trouble in wallowing back to the boat. I tried a few half-hearted prods with a pole on the off chance of striking something which felt like venison, but, with night coming on and a coating of black mud to be removed before supper, I did not care to undertake extended exploration. Indeed, if that rangy buck had continued sinking at the rate I started to, it would have needed a deep-sea sounding lead to locate him at the end of the ten minutes' handicap he had.

Pulling on till I came to a firm pile of drift, I bathed on a submerged log, donned a change of clothes and was ready for supper. It took some effort to burrow down through the pelican stratum to the ducks, but it was justified by a teal stuffed with mushrooms and roasted in a Dutch oven. Smoking and dreaming by the camp fire until the moon came up, I made my bed in the bottom of the boat and pushed off again for another night of drifting. I dropped off to the tail-slappings of sporting beavers and the distant strains of a coyote chorus.

Pushing off the next morning I was just taking up the oars when the sound of a great crashing in the tules to the right warned of what I took to be the coming of a drove of wild pigs. Greatly to my surprise nothing larger than a lithe half-grown wildcat came bounding out upon the bank. It must have been his gambolings that were responsible for the racket he made in coming through the reeds, for he continued to play with himself or an imaginary comrade all the way down to the water. Here a torpidly moving fish brought a new interest into his young life. There was a gleam of silver as a swiftly flirted paw tossed a small mullet into the air, and another when he caught and threw it with a snapping back-flip of head.

Now he retreated backward, spitting explosively and pretending to be afraid; then returned and, prodding with a paw, tried to play cat-and-mouse with his catch. It must have been the click of my cocking hammer that made him grab the precious morsel in his mouth and settle into a suspicious crouch. I took no chance with a body shot this time. The bullet through the forehead must have killed instantly. He lurched forward into the water, retaining in his dying grip the still faintly breathing mullet. I left the latter in the clenched jaws, hoping that it might prove practicable to have fish and fisherman mounted together.

It was not farther along than around the next bend that a young buck, after watching my drifting approach from a screen of low-hanging willows, lost his head and plunged into the river almost in front of the boat. It was an easy shot and I had no trouble in placing a bullet where it accomplished its work without mutilating a very pretty head. He was of the species the Mexicans call *burro,* possibly on account of its large ears. I was less keen for a specimen of that variety than for one of the so-called *veneda,* probably the largest member of the deer family proper on the North American continent. Confident that the cowboys would enjoy the venison, however, I loaded this one into the boat.

A swirl of buzzards in the air directed my attention to a point a quarter of a mile ahead where a considerable pile of drift had accumulated against the bank. The shimmer of reflected sunlight told of sliding mud, and presently I saw that the drift was piled at the mouth of a *barranca* draining down from some extensive sink. The whorl of screaming scavengers focused upon a heaving yellow mass milling in the mud, and that, in turn, was concentrating upon some central object of interest. So densely packed was the jam in the mud that it was not until I had pulled down to within a hundred yards that I made out for certain of what it was composed. Even then, indeed, it was auricular rather than ocular evidence that furnished the revealing clue. Such "whoufings" and snorting as that could come only from pigs fighting over food. *"Javelina!"* I breathed ecstatically, shoving the magazine of my "thirty-thirty" chock-a-block with cartridges.

It was indeed a bunch of true *javelina* that I had surprised. The pigs nearer the boundary may have been descended from domestic porkers, but these rangy brown-yellow brutes that were fighting there in the mud over the body of some mired animal bore every mark of having run wild from the beginning of time. Those stilty legs, gaunt barrels, high shoulders and long lean snouts would have taken a hundred generations of wild life to evolve from a tubby Berkshire. So, too, the bristling humps and the great back-curving tusks of the boars. I have always been convinced that the *javelina* which ranged the Colorado delta thirty years ago was as authentic a wild pig as any to be found in Asia or Africa.

What the savage mob were fighting over I never did learn. The clean-gnawed and partially dismembered skeleton might have been that of a deer or possibly a far-strayed steer. My opening shot was at the half-masked shoulder of a huge boar that was trying to break away from the ruck with a bone in his mouth; the rest at the bunch as it scattered. Only one animal—a comparatively small one—appeared to be fatally wounded.

The big boar, though plainly hard hit, managed to wallow up the bank and into the cane. He was protesting mightily in intermittent mud-stanched squeals as he floundered through the mire, but these were nothing to the bedlam of high-keyed yells that broke out a few moments after he disappeared in the *carrisa.* The whole mob appeared to have joined the revered patriarch and started squealing in sympathy. If I had had the experience of wild pigs that was to be mine five years—or even five minutes—later, I would have known that they were not a sympathetic species.

The sweet little cherub who had acted as the handy man of Providence in easing off the shock of my contact with the lynx must have taken a hasty hitch at his belt and prepared for instant action when he observed that I was pulling into the bank and preparing to land. There are as many ways of hunting the wild pig as there are peoples who find zest in the chasing of him, but none of these deliberately contemplates going about the chase without someone hovering in the offing to pick up the possible pieces for the folks at home.

The Anglo-Indian officer reckons that there is a certain amount of risk in meeting the wild boar of the Punjab mounted and with a spear, and the Marquesan, taking the rush on foot, always has support in reserve in the event his own cutlass thrust fails to reach a vital spot. For actual lone-hand pig hunting I had realized the only practicable plan in floating down a river and shooting from a boat. That the lone hunter should remain in the boat I had yet to learn. I wanted to finish that big boar and take his tusked head home for my trophy room. My principal worry was on the score of dragging the great body down through the mud and getting it into the boat.

I had to pull back upstream for a hundred yards before finding a point where the bank was solid enough to bear my weight. The mud was knee-deep all the way up to the cane, but the footing was firmer once I reached the higher level. The porcine chorus was working up to a *crescendo* as I pushed along through the *carrisa,* so that there was no difficulty in keeping the proper direction. The reedy growth thinned as the distance from the river bank increased, and it was in the comparative open that I reëstablished contact with the pigs. They had backed the wounded boar up against a gnarled mesquite trunk, and the sympathy I had sensed was taking the form of eating his violently protesting anatomy. As the unconsumed portions of the unlucky veteran still showed unmistakable signs of life, I gave the hideously mutilated body the benefit of my first bullet. Even then my only apprehension was a fear that the splendid head had been ruined beyond the wizardry of taxidermy to rehabilitate. Such is the way of real innocence.

The cannibalistic mob scattered at my shot, just as when I had first fired at them on the river; scattered, and then came back again like swarming flies. It was the noise of the shot rather than its effect that appeared to disturb them. Most of them turned to and continued to lavish sympathy upon the remnants of the dead boar. Not over a dozen seemed suddenly bitten with the idea that there might be something edible behind the "Big Noise." There was no hint of fear in the businesslike way they came nosing in upon me; only a slight suggestion of indecision, as though they were still somewhat in doubt as to the wisdom of leaving a feast in the hand for one that might lead them a chase into the bush. They did not rush me, but rather advanced with a deliberate nonchalance which indicated that they knew perfectly well what to do and how to do it—when once they decided it was worth doing.

Ignorant as I was of the ways of the *mundo javelina,* I at least knew better than to try to stop a pig with the glittering human eye. I shot twice, and shot well. A long-tusked boar crumpled up with each bullet. I have no doubt that the third shot would have been just as effective, for I felt myself perfectly in hand—until the hammer snapped down with a metallic clank and I realized that the magazine of my rifle was empty. I had neglected to replenish it since first opening fire on the river.

The conventional thing to have done, of course, would have been to climb a tree. All story-book hunters do that, sometimes before, sometimes after breaking the stocks of their guns in hand-to-claw combat. Unfortunately for convention, the only tree in the vicinity was already ringed, a dozen deep, with pigs performing their last sympathetic rites over the body of the big boar. Moreover, "Run!" not "Climb!" was the imperious command winged by my little celestial guardian. Beyond all question it was the best, nay, the only thing to do. Fighting it out was all well and good so long as I had a gun in hand, but biting it out with an enemy who had made a life-business of using his teeth was prohibitively unpromising.

What the order of my celestial guardian cherub lacked was explicitness. It was too general. If it had included a course or bearing, I should undoubtedly have carried it out with much greater neatness and dispatch. As it was, taking what instinct told me was the most direct course to the river and safety, I broke through the cane to land in the slithery-slick mud of the drainage *barranca* at the end of ten yards.

The immediate porcine periphery, scattering at my last shots, evidently found temporary diversion in the flesh of their newly fallen mates. At least none of them appeared until I had rubbed the mud out of my eyes, effected a hasty orientation and started to climb up the farther bank. Then, bloody of eye and jowl, they began to filter out in questing twos and threes and settled down at convenient vantage points along the rim of the *barranca*. There was even a sort of quiet post-prandial languor in their movements, as though relaxation and entertainment were nearer to their hearts than the grosser delights of gorging.

Doubtless, too, past experience had made them confident that mired quarry could not readily escape; that, since they had already fed to repletion, there was no reason why they should not lie at their ease and gloat for a spell. I could hardly miss the contemptuous offensiveness of such an attitude, although, busy as I was with a new and pressing problem, I could not but prefer passive surveillance to active pursuit on the part of the pigs—gloating to gorging, that is to say.

The new and pressing problem was one in applied aquatics: in short, how to swim in soft mud. Wading was out of the question. I had proved that in trying to climb out on the bank—the one opposite to the pigs, I mean. Little of the mud appeared to be underlaid with anything like solid bottom, but where the thin slush in the depths of the depression would at least permit one to circulate and splash in it, the stiffer mixture on the slopes simply closed in round a foot and tried to drag it deeper. So, bad as it was for the rifle, I gave up the idea of climbing and started to swim.

It was not real swimming, of course, not a swift, gliding Australian-crawl sort of progress, but rather a pawing flounder on all fours, a wriggling squirm in many directions that resulted in a slight mean of linear movement in one. The first ten feet were the hardest. Then my form began to improve and I could hardly have been over ten minutes in oozing through the next fifty feet. Here, with my toe resting on a submerged snag, I paused to ponder a new problem, namely, whether or not to throw away my rifle. It was proving no end of a hindrance and might possibly become a prohibitive handicap if the *barranca* did much turning and twisting on its way to the river. On the other hand, a gun butt would be a mighty handy thing to club pigs on the snouts with in case they persisted in coming to close quarters. I was still in a sufficiently heroic state of mind to thrill at the thought of that story-book last stand with a clubbed gun. That must have been how I came to pat my chest and discover a breast pocket full of cartridges. And these brought up another problem.

Of course I knew better than to fire a shot through a mud-clogged barrel. There was nothing debatable on that point. What I did ponder was the possibility of cleaning the barrel. With the gun once in shape to fire, I reckoned that I ought to be able to kill enough pigs to keep the cannibalistic survivors busy while I made a comparatively unhurried wallow on down to the river. It certainly seemed worth trying.

Blowing and sucking the muzzle accomplished little beyond filling my mouth with a vile blend of mud and gun grease. Squirting through a mouthful of water from a little well I scooped in the mud did better as far as the bore was concerned, but the first cartridge I tried to work back from the magazine jammed hard and stuck fast. Rather more in petulance than in sorrow (for it was almost impossible to carry in the mud) I tossed the useless weapon well out onto the firm ground of the non-pig side and resumed my oscillating ooze down the bottom of the *barranca.*

Freed of the encumbering rifle and with a constantly improving mud technique, I floundered on with a steadily accelerated headway. The slush grew softer and softer as I churned ahead until, below the place where another slough joined the one which I navigated, there was a good foot of comparatively clear water overlying the mud. Better still, the fringing willows of the river were now in sight a hundred yards ahead, with the water of the slough broadening—and probably deepening—all the way.

In my engrossment in and elation at the success of this novel navigation, the *javelina* had all but slipped out of my mind. An angry "whoufing" quickly slipped them back again. As long as my progress had been mostly up and down or sidewise, they had been content to lounge and gloat. When I really began to get a perceptible way on, it was another matter. Reposefulness gave way to restiveness, and that to surly concernedness. As I picked up speed in the deepening slough, some of the more belligerent boars, snorting and gnashing their tusks, began crowding into the mud as though to lead an active sympathy drive.

I deeply regretted the disabled and discarded rifle, but, remembering that the bark of the gun had appeared to frighten the pigs more than its bite, I did my lustiest to make a noise like an exploding shell. The imitation was not technically perfect, but what it lacked on that score it made up in volume. The mob did not scatter but it certainly did pause. I, on the contrary, did not stop even to yell—just kept lunging ahead with a bellow after every stroke. Now and then the roar descended to a burbling blubber as the over-worked exhaust of my mouth scooped water or mud, but the arrestive effect on the pursuers could not have been greatly lessened. The enemy was still gnashing in indecision and bafflement as my vigorous hand-over-hand carried me out into the open river. The swim upstream to the boat got rid of most of the mud save what I had swallowed. When, loading up the magazine of my pump-gun with buckshot shells, I went back over the bank to retrieve the rifle, the pigs were out of sight and sound.

I got the rifle cleaned out and working again just in time for a shot at the leader of a large herd of *veneda* that started to swim the river about noon. The bullet through the neck was not immediately fatal, but it left the splendid buck too weak to climb out through the mud after he had reached the bank. Throwing a rope round his horns, I dragged him alongside and dispatched him with my hunting knife. The head was a truly magnificent one—finer than I would have dreamed anything less than an elk could carry. Getting the great body into the boat proved an awkward job, and I finally had to go over into the mud myself to manage it.

Considerable as was the capacity of my roomy old scow, this latest addition to my cargo taxed it close to the limit. Freeboard had become reduced to near the danger line, and it was only by the most careful stowing that I made working room for my legs. If I did not reach the cattle camp within a few hours, it was plain that I would have to start scuttling or skinning. Not knowing much about the technique of the latter, I was anxious to defer the operation as long as possible in the hope of profiting by the expert help of the cowboys.

The last of my fresh water went into the lunch-time coffeepot. This worried me not a whit at the moment, however, for the river had been steadily crowding over toward the great desert peak of Mayor, and it was here the Indians had told me I should find a well. Landing an hour later, I located the hole just as described, at the rear of a deserted wickiup. It was full to river level with water that was crystalline in its clearness; also of a saline content that stopped just short of crystallinity. The seepage into a shallow hole which I scooped just back from the water's edge proved slightly less salty. Reaching the cattle camp in short order was developing an interest quite outside of commanding skilled flenching help.

Only once did I pause to use my rifle. This was on a hulking *javelina* that stood and made faces at me from a stranded cottonwood log on the right bank. I had no intention of stopping to collect him. It was only that something in his attitude or expression recalled the offensive manner of one of the boars that had taken a prominent part in chasing me down the ooze. The out-and-out ignominy of that muddy hegira still rankled deeply; so I started to take it out on that particular pig, not for what he had done, but for what I knew he was not above doing if he had the chance.

My hastily pumped shots all went wild. Likewise the pig, for he missed his footing on the bridging log and went over his head into a gleaming tongue of liquid mud. The remainder of his progress to the shelter of the cane was like the tunneling of a giant mole. There was a certain poetic justice in the denouement but, being a pig and therefore gross, the fugitive doubtless missed most of the finer points of it.

The petulance of this outbreak on my part, together with the bad shooting, was the first indication that the situation—the failure to find water and the cattle camp—was beginning to get on my nerves. Intensely thirsty from my rowing, I was still unable to force a drop of the nauseous contents of the canteen past my lips. Boiling increased rather than decreased the salinity, and a cup of cocoa made with it was of unspeakable sickliness. Finally I mixed a half-and-half concoction of *tequila* brandy and condensed milk and made my supper off that. Thirst was unquenched but spirit soared. Young Ulysses was himself again. Muttering appropriate scraps of poetry anent the vivid sunset flaming behind the jagged Cocopahs, I pushed off again upon the darkling river.

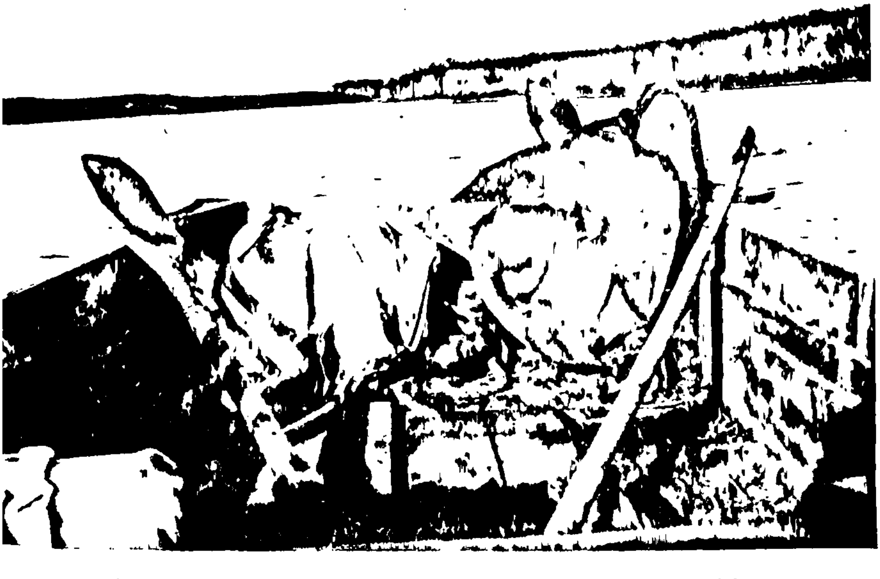
It was a night of high resolve—for a little while. From the air came the beat of whirring wings; from the water—evanescent gleam of fluttering silver in the afterglow—the splash of leaping fish; peering deer raised dusky silhouettes above the fretted cane tops of the western bank, and afar, somewhere in the sinister shadow-slash of a Cocopah canyon, a coyote began his palpitant pæan of praise to the coming night. On an evening like that, I assured myself, confidently settling back to the oars, it would be no trick to pull a mud scow to a cattle camp that was atop the mountains of the moon. Doubtless the camp I desired to reach was not half so far as that, perhaps no more than round the next bend; but wherever it was I was on the way, and heading into the home stretch. It was a night of high resolve—for a little while. Wonderful thing, resilient youth —plus *leche condensado con tequila Mexicana!*

The cattle camp did not appear beyond the next bend, but in its place I came upon an enormous green turtle. There was just enough light to make out the arch of the great shell where it rested on a mud-submerged log halfway up the bank. A giant turtle was just about the only thing of air, earth or water that I would have stopped to stalk so soon after I had nailed the slogan of "Cattle Camp or Bust!" to the masthead. Moberly Meadows had not only waxed eloquent respecting the gustatory delights of calipash and calipee, but had also given intricate technical directions as to how a giant turtle could be harnessed to a boat and made to tow it.

The secret was in striking the water with an oar—now to port, now to starboard—according to which direction you wanted your veritable Neptune's Barge to turn. You couldn't tool a newly caught turtle as smartly as a horse-show four-in-hand, Meadows admitted, but a docile specimen could be broken very readily, and it sure saved a lot of rowing. "Turtle-tooling!" I let the words trickle trippingly from the tip of my tongue. They fitted with a click into my mood of high resolve. I would kill two birds with one stone by tooling the turtle down to the cattle camp and then cutting him up into calipash and calipee for the regalement of the cowboys who skinned my game.

That lapse into vocal elucidation of my plans was a technical error and came near to compassing their defeat at the

The wounded lynx had taken refuge in a tree



The giant green turtle and the hitch that finished him

outset. Scarcely had I got the boat under renewed way than a sharp plunk from the bank told me that the turtle was also up and away. I had fifty feet to go to his ten, but flippers are not hung for speed and I was throwing a heavy wallop into the oars. It was a dead heat to our common goal, the water's edge. He drew in his head as he realized a collision was inevitable, and the flat nose of the scow smote thwackingly upon the end of his shell. Then boatnose and turtle melted and merged with the soft mud of the bank.

Of course the impact of the collision sent me keeling over backward. Nothing could be nicer to buffer the force of a fall than pelican down; nothing worse than deer antlers. Whatever sensation I should have had from the delectable caress of pelican feathers was lost in the impression received when the tip of the deer's horn met the tip of my ear. Temper and cuticle went together, which was probably the reason for my forgetting Meadows' warning that gentleness and patience were the prime essentials of one who would break the wild green turtle to be a servant of man. I broke this one of sticking his head out and going forward without orders by cracking him on the snout with an oar, but that was as far as the breaking ever went—except for the oar blade that shivered on his shell when I tried to prevent his retreating deeper into the mud.

Watching my prize dissolve into thin mud before my eyes, I realized that I had made the mistake of trying to break it too soon—before I had caught it, in fact. First to catch the turtle; that was plainly the thing to do. With fading light and flushing bank there was no chance for finesse or strategy, I told myself. Direct action was what was called for. Forthwith I seized the bight of the painter and stepped lightly but firmly forth upon the arched hump of the sinking shell.

There is a certain type of Swiss ice-climbing hobnail which might conceivably give a man a precarious foothold upon the slime-slippery back of a green turtle. I say might, because I did not have that particular type of nail in my shoes on this, the only occasion on which I ever tried to stand upon a turtle that was sicklied over with a thin cast of mud. One foot went one way and the other another. That was why, for just one fleeting moment, too short to register triumph, I was actually astride and mounted upon my unbroken quarry. An instant later I was down beside him, then beneath him, and finally up alongside again, blowing for wind.

Contact with the submerged log had checked the flounderings of both of us, and, as luck would have it, had left me in the vastly superior strategical position. That is to say, the head and arms were on the section of me that was above the mud, while the cookie-like segment of turtle which protruded was provided only with a tail and two hind flippers. Luckily, too, I had retained hold of the boat painter through all of my wallowings; also enough high resolve not to shrink from the task of thoroughly entangling that light, strong line with the sprawling flippers. It was hard to make my hitches hold at first, but I managed it finally by wiping off the flippers with my handkerchief, as a mother might swab down the paws of her mud-pie-making child. Then, hauling the bow of the boat close against my stranded form, I hung over the gunwale and finally wriggled aboard out of the mud. I pushed off with my pole and found myself floating down the Hardy with a green turtle in tow.

Having a turtle in tow was not, of course, quite the same thing as being towed by a turtle. I did not let my elation blind myself to that very radical distinction. I was counting on kindness and patience to turn the tide, but deemed it best to defer their application until the soothing contact of the rippling water had a chance to cool any temporary resentment that might have been engendered in the breast of the captive by the super-Sabine ruthlessness of my attack. Judging by the decreasing resistance on the towline those first fierce flickers of fury had all but died down and out when the crotch of a forked snag intervened to fan them into full flame again.

In spite of my broken oar blade and the fact that I was backing water with the stern downstream, there was a very fair way on the boat at the time, so that the strain of bringing up short the three-quarter-ton or more of dead weight of wild game must have resulted in a very uncomfortable racking of that pair of hind flippers to which my painter was bent. I eased off the strain and maneuvered a disentanglement as smartly as circumstances would permit, but was left with a very sore and belligerent turtle in tow. Refusing longer to be lulled Letheward by the soothing touch of the Hardy, he began darting hither and thither with a force that rather more than negatived my best efforts at a forward progress. Finally he stranded the boat on a pile of drift where, despairing of inducing a relapse into docility that night, I hauled up short and started to fetch him aboard.

Everything considered, the hoisting in of that three-hundred-odd-pound case of calipash and calipee was the most bafflingly trying job I ever attempted. Boat and turtle seemed to be in conspiracy to forestall the success of any get-together movement. When one was in a position for a lift, invariably the other wasn't. Or when they were in approximate juxtaposition for action, some not inconsiderable trifle like a deer's horn in the pit of my stomach would make it awkward and painful to exert my full strength in an effective *yo-heave-ho!*

Although the boat's resistance was passive rather than active, it succeeded in the infliction of rather more considerable damage than did the openly belligerent turtle. The steel-trap-like snaps of the latter I avoided for the most part, but in doing so usually managed to impale an eye upon an oarlock or sideswipe a cheek along the slivery edge of the gunwale. Broken in skin and spirit, and with the dregs of my high resolve oozing with the mud from my fingertips, I finally effected my purpose by mooring fore-and-aft to the drift pile, clambering out to a solid footing and heaving the turtle over the heeled-down side. Vast quantities of mud and water slushed over in his wake, but, with still a couple of inches of freeboard when the boat was on an even keel, I pushed off once more upon the moonlit waters.

Desperately tired after my exertions, I decided to postpone further attempts at turtle-tooling until the morrow, so I stabled my steed aft by turning him on his back between the deer. I tossed off a couple of cans of condensed milk and spread my blankets on an improvised mattress of pelicans. I was thirsty enough to be seriously tempted by the brackish boiled water in my canteen, but managed with the canned milk to bridge the interval until sleep brought surcease.

I could not have been long asleep until the great peak of Mayor began to bend over and press me gently but firmly upon a huge spike planted in the small of my back. At least I thought it was Pico Mayor while the sleep-bonds still held me fast. Struggling up through the No Man's Land of waking and sleeping, I heaved a sigh of relief to find that it was no more than an Incubus sitting, as Incubi are wont, upon the chest of its victim. A blinking black pool on my blanket quickly showed the fallacy of the Incubus diagnosis, however, and proved that I was in the clutches of a vampire—and a blood-sucking one at that. It was a familiar steel-clicking snap grazing my upward-groping finger that shocked me full awake and "a-wise."

Crawling out from beneath a three-hundred-pound turtle without putting under water the side of a hair-trimmed boat is not a simple maneuver, but I finally managed it by judicious and well directed wriggling. Disengaging myself from the steel spike which Mount Mayor and his chest-pressing successors had been forcing into the small of my back proved the most painful part of the operation. The reason for this became plain when subsequent investigation revealed the fact that what had really impaled me was the foot-long bill of one of the component parts of my pelican mattress.

It was not until several years later that an Indian of the middle Amazon taught me how to turn a turtle upon its back so it would stay turned. On the present occasion, having failed in my attempt to do it with gravity, I saw no alternative to doing it with rope. And so it was rope that I used; rope woven, twisted, twined and cinched. Standing my tormentor on end against the interlocked deer antlers, I lashed him flipper by flipper to the solidly planted prongs. Already bound fast enough to hold a baby elephant, there was really no need of a final flourish in the way of that elaborately devised neck hitch.

But I had deftly noosed his extended neck as he was in the act of taking a surreptitious snap at the hand with which I was half-nelsoning his port flipper, and at the moment there seemed a certain poetic justice in making his most truculent member also the one most effectually secured. Save for the knot under the left ear, no Vigilante of Forty-nine ever adjusted a prettier-setting necktie. Making the loose end of the latter fast to a cleat on the stern, I told the disturber in plain words that he would have to be quiet or be sorry and went back to my mud-smeared bed among the pelicans.

For a few minutes there were sounds of a struggle in the stern, and the boat trembled to unseen tuggings and strainings. Presently these gave way to the long chesty sighs of one who is deeply resigned. These sobbings fluttered and grew fainter and soon were indistinguishable from the intermittent wing-whirrings of passing birds. "His fighting spirit is broken," I said to myself, pulling close the blankets; "probably he will be more docile, more amenable to turtle-tooling technique in the morning." I must have dropped off myself at this juncture, for I remember no more until the lappings of wavelets awakened me in glaring daylight.

A splitting headache, a distinct feeling of squeamishness and a decided disinclination to be up and doing were the morning-after residue of my high resolve of the night before. But if resolve was no longer high, something else certainly was, and—being not unfavorably placed to get at facts—I did not require the corkscrew whorl of buzzards circling above to tell me that the game was up in more senses than one.

Anxious to enlist the expert skinning talent of the cattle camp, I had asked too much of Nature, and now she had rebelled and was taking her own course. The frosty nights and cool days had stemmed the rising tide of putrefaction, only to have it sweep on at the first breath of the warm Gulf wind that had stolen up the river during the night. Yes, the game was up, all but blowing up, indeed. My pelican mattress billowed like a fleet of young balloons, and looked, as I gingerly rolled back the blankets, like a bank of cumulus clouds fanned by the Trade Wind. The deer— But why proceed? The freshness was gone out of my young life as out of the morning.

With a tenderness of touch born less of solicitude than a fear of starting a premature explosion, I got rid of my nauseous cargo as best I could. Then, mooring to a snag, I washed down deck, took a bath, put on fresh clothes, emptied the last can of condensed milk and resumed my oars. With nothing fit to drink left, and with banks so muddy that climbing out in search of a doubtful waterhole was no longer worth the effort, reaching the phantom cattle camp within a few hours became more a matter of saving my own hide than those of a lot of wild animals.

An unbelievable gentleness and pliability on the part of the turtle had, it is true, checked me halfway in my scuttling operations with a renascence of the idea of breaking him to drive. That last flicker of frivolity died out when I lowered him back on all fours and discovered that the overnight docility was traceable to the tautness of the necktie I had so deftly knotted under the triangle of his pugnacious jaw. Those long-drawn sighs that came to me 'twixt sleeping and waking had expressed an even supremer resignation than I had suspected. "All that is left of him now is pure calipash," I paraphrased, and slid him over into the fragrant wake of the lynx that had snapped at my knee.

The processional fragrance of what was to have been the adornment of my trophy room had passed out of sight beyond the bend by the time I had washed down and cleaned up, but a south wind that breathed not of daisies kept it from passing quite out of mind. It was my intention to pull by and on to windward as quickly as my damaged oars would allow, but I had hardly raised the last high-floating unit of the vanguard when a low blubbering moan directed my attention to the right bank.

A steer nervously trotting back and forth in the mesquite was a welcome sign that I was finally approaching at least the fringe of the cattle range; but it was not from this animal that the sound came. A renewed blubbering and a blur of movement among what I had taken to be snags and driftwood at the water's edge led me in to the bloated body of what was an all-but-submerged cow. Snarling and tooth-flashing, a ring of prowling coyotes melted into the tules at my approach, and from the tail of my eye I seemed to catch an evanescent glint of gliding gold. I had evidently interrupted the final act of a tragedy.

With no heart for further shooting, I pulled in close to the mired cow to see if there was any way in which I could work her back toward firmer ground. With all but her back and head under water, and with strength only to lift clear the sagging muzzle for a breath, it was plain enough that a half day more would see the end, even without the intervention of the lurking coyotes and cougar. It was the thought that the cattle camp and succor must now be very near that held my hand when common sense told me that the humane thing to do was to speed the quieting bullet. Firing an admonitory shot into the tules to scatter the coyotes, I took up the oars again. The weaving gray shadows at the mud's edge had resumed before I rounded the next point.

A blood-stained wallow by the water and a line of clean-picked bones at the top of the bank told me within the mile of the eventual fate of any cattle that became fast in the mud. Two lithe forms that I distinguished moving about the right bank a quarter of a mile ahead I was not long in recognizing as cougars. Both seemed busy worrying some gleaming object between their paws. At first I thought they were feasting on fish, and this theory appeared to be borne out when the smaller of the pair, after a tense tail-swishing crouch upon the bank, sprang cleanly to what I took to be a half-submerged log well out in the water. It was not until it began to tear and rend the supposed log in savage fury that I realized it was standing upon what was left of a mired steer.

Sick at the thought of the fate my softness must have forced upon the helpless cow in the mud above, I snatched up my rifle and fired as long as there was anything in sight to shoot at. Gone as I was in hand and nerve, that was by no means bad practice. Putting two bullets into the more or less motionless figure astride the steer was not especially worthy of remark, but letting sunlight into the ribs of the patch of yellow streaking up the bank was fairly creditable work under the circumstances. The smaller lion crumpled at the second bullet and slid off into the water. The other, snapping at his wounded side, floundered through a pack of coyotes and off into the mesquite. The lean gray little wolves, apparently not much frightened by the shots, sniffed the fresh blood trail and slunk off to imminent carnival.

Even after an interval of three decades it would be distinctly painful to conjure up again the memories of the remainder of that infernal day. I have been thirsty since—very thirsty—but never to the accompaniment of so distressing a nausea. I must have become very weak not long after the shooting of the cougars for, try as I would, I was never able to pull up with and past my floating menagerie into the fresh air beyond. That grisly phantom fleet, bobbing so grotesquely down midstream, became to my inflamed imagination an elusive will-o'-the-wisp, to be eternally pursued but never grasped. Not that I wanted to grasp it again, jointly or severally; but somehow the fantastic agglomeration of fur and feathers became the symbol of what my every drop of blood was crying out for, the cattle camp—and water. The goal I strove so hard to reach was just beyond those breeze-bumping bags of hide that floated with heads and tails so jauntily askew.

Once past them, I was there!

A crazy enough conceit, to be sure; and yet that was something of the fashion after which it fell out. It was the turn of the day and the turn of the tide. My only certain recollection of the dismal stern chase of the afternoon has to do with stopping every now and then to tell a mired steer how sorry I was that I wasn't in shape to be of any help to it. I seemed to resent it a bit that there were no evidences of reciprocal sympathy; for, sorry as I was for the steers, I was beginning to feel a deal sorrier for myself. Also there was a growing fear of and fury at the prowling lions and coyotes. Beasts that would leap out over the water to lunch upon a mired steer could hardly fail to be attracted to a weak and weary youth in a stranded boat. So I blazed away at every skulking figure that showed along the bank, but without ever pausing to note the effects of my shots. Into a bunch of wallowing *javelina* I emptied a whole magazine. Gloating pigs were just about the last straw.

No, it was not a pleasant afternoon even in retrospect. Another waterless night would have been a deal more trying, but I have never had the nerve to give my imagination rein to picture just how much so. I knew that the ebb of the tide on any river must take many hours more than the flow, but it seemed to me that the turn must be long overdue when the approach of the notched purple shadows of the fantastic *pinto* mountains to the southwest heralded the coming of night.

With the prowling lions in mind, I was just telling myself that a mid-river snag would be the safest place at which to tie up during the rise, when a salvo of shots and yells smote upon my ears from somewhere round the next bend. A few moments later, milling confusedly as though in flight before an unexpected ambush, my covey of floaters came bobbing again into view. At the same instant, to the accompaniment of a renewed fusillade, a band of mounted Mexican *vaqueros* came charging along the bank in hot pursuit. Sighting my boat, they reined in their plunging mustangs and stopped firing.

Evidently the presence of a man on the river gave promise of some sort of explanation of the barrage of inflated floating game that was blocking the channel.

A low but distinct wave marked the head of the incoming tide, with an upstream current following it that was much too strong to be stemmed with my oars. Realizing this after a few minutes of futile effort, I pulled up against the right bank and signaled for a tow. The few hundred yards to the camp beyond the bend were covered at the end of a horsehair *riata*. When I climbed weakly up the bank at a corduroyed landing place, I was greeted in a friendly drawl by a white man who introduced himself as Bruce Casbare. He hoped that I had had a pleasant voyage.

I replied that it had been very pleasant except for a slight thirstiness which had developed during the last day or two. The way being thus prepared, I asked if he would mind letting me have a bit of a drink.

"One awready pohed fo' you," he drawled genially, leading the way to a table beneath the brush-thatched lean-to of the shack. "Hope you don't mind youah likker straight. Cook used up last o' the watah this evenin' an' the *mozo's* jest gone ovah to the main rivah fo' anothah bahl."

The imp in the heart of that brimming glass of *mescal* leered mockingly at me as I reached out a trembling hand. With a weak shake of my head I settled down onto a rawhide-braided chair. "You'll have to excuse me," I apologized huskily; "but I feel too much like a tinder-box inside to dare to take any liberties with liquid fire. I—I think, if you'll let me have a horse, I'll ride over and meet the water-wagon."

Of course an empty *olla* didn't necessarily signify that there was not water on the kitchen stove or cooling juices in cans of corn, peas and tomatoes. The interval was tided over without Mohammed's having to go to the Mountain for a drink, but it was some years before I could face a glass of amber *mescal* and not flinch as before a brandished firebrand.

A round-up over Laguna Salada way had been responsible for failure to keep up the wonted river patrol for the benefit of mired cattle. Setting off at daybreak the next morning a party of cowboys rescued the more fortunate creatures that had not already fallen victim to marauders. In each case a rope was thrown to the horns of the mired animal and a powerful team of mules was used to drag it out. Every one of the befuddled brutes strong enough to keep its legs invariably rushed the nearest man or horse the instant it was free of the mud. So weak as to be easily pushed over with the hand, the tottering creatures could be eluded without difficulty, but one couldn't help wondering at the strange mental process behind the ungracious action.

The large lion I had wounded from the boat had met grim justice in being followed and besieged by the coyote pack that he and his mate had been fighting off from the mired steer. Cruelly torn about the abdomen by my soft-nosed bullet, the savage old warrior had made good use of his jaws and paws in staving off the inevitable end. There were already two dead coyotes under the *palo verde* to which he had dragged his shattered frame for a last stand, and three or four more, whimpering and baleful-eyed, were licking paw-smeared wounds at a good safe distance from the spiteful yellow peril. But there was a limit to which an untamable spirit could force blood-drained flesh and dying strength.

Glazing eyes were giving but blind direction to numbing paws and the yapping periphery of the pack must have been on the verge of closing in for the final worry even as we came galloping up. I directed my first bullet to the dying lion, while the Mexicans opened up with their six-shooters on the scattering coyotes. These provided merry revolver practice during the half minute it took the keen-eyed *vaqueros* to drop rather more than a dozen of them in the lanes between the mesquite.

Casbare explained something of the phenomenon of the tidal bore when I rejoined him in camp that afternoon. It came to its full strength only at the spring and autumnal equinoxes, he said, at which time it rolled upstream in a great breaking wave and brought a rise of close to twenty feet even on the Hardy. Following the equinoxes the bore lost force rapidly until, at the winter and summer solstices, it had almost ceased to exist as a wave and was evident only in a slight tidal movement. My coming, chancing almost exactly on the December solstice, had discovered the bore all but negligible even as a tide. This, since I had elected to drift down the Hardy in an overloaded boat, Casbare considered very fortunate for me. The bore at its height, he said, came crashing along in an eight- or ten-foot wave, carrying a weight of water that would have reduced my boat to kindling wood in the shallows and at least swamped it in midstream.

In the twenty years which were to elapse before I met the great tidal bore of the Hardy's Colorado face to face, intimate experience of the devastating wave that sweeps the estuary of the Hangchow River in China gave me an interesting background of comparison. The year I voyaged to the Colorado delta again, after running the rapids of the upper canyons, was the one in which the bore wrote its most tragic chapter by drowning seventy Mexican laborers from a schooner which was driven aground and upset at the head of the Gulf of California. An alteration of the course of the main river a few years previously had flooded the delta in a way to destroy forever what was perhaps the greatest wild game refuge the North American continent ever knew.

CHAPTER V

"HARD WATER"

There Were More Rocks than Water in the Cloudburst Flood Which Swept Through the Great Black Crack of San Pedro, but It Carried Me Where I Had to Go.

It is a strange trick of fate that, with many thousands of miles of voyaging on the longest, widest and wildest of the world's rivers, the one that should have left the most ineradicable scars on both my memory and my body was the shortest as well as the dryest. So guiltless of moisture, indeed, was the Great Black Crack, at the point where I first entered it, that my initial traverse resulted in my getting all dusty, rather than all wet. The fact that subsequent events made my abused anatomy both water-soaked and bloody is responsible for the inclusion of that sinister arroyo in these chronicles.

It was the averredly cannibalistic Seri Indians of the Island of Tiburon who assured me that, on or in the vicinity of the great peak of San Pedro, half way down the Peninsula of Lower California, were to be found mountain sheep larger than human eyes had ever gazed on elsewhere. As this was still in those optimistic youthful years when I had ambitions to collect record-breaking heads to mount for my trophy room, I lost no time in arranging to be ferried to the happy hunting grounds in a precarious Seri *balsa*.

As we approached the coast of the peninsula, Pico San Pedro's splintered pinnacle, a triangle of gleaming white rock, reflected the rays of the rising sun to helio a cheery welcome. Less friendly was a sinster black chasm, cleaving the lofty mountain from peak to base, which seemed to darken and deepen as we came more nearly abreast of it. With every other gully and canyon of the peak light-searched to its ultimate depth as the sun neared its zenith, the somber gorge maintained its gloom right through the blaze of noonday. There were plainly many places at which one could not see out from the bottom on account of the overhang. Even with my rudimentary knowledge of geology, the dark crack marked the course of a fault where the whole mountain had been split asunder in the making, and then clapped together again —only not quite enough to make a clean job of it. One side had probably settled more than the other. Surely an awesome hole.

Pointing to the gloomy canyon, I asked the Indian at the tiller if it was favorable hunting territory.

"Bueno oveja, Moki? Good place catch 'em sheep?"

The Seri shook his tousled head quickly and decisively, a hint of terror in his widened eyes.

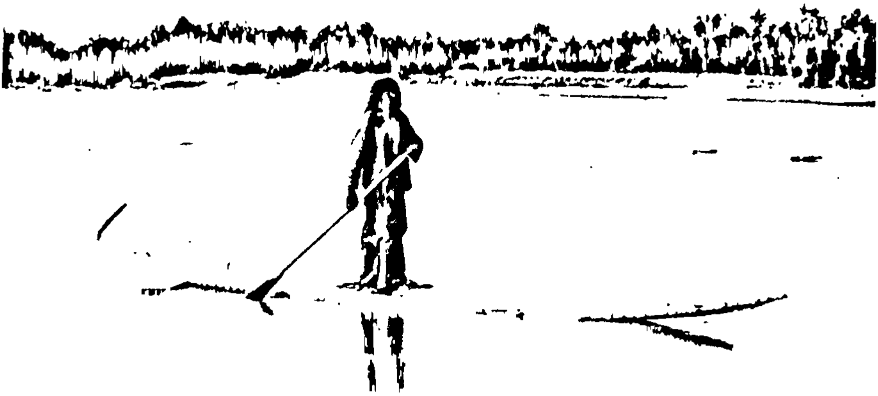
"Ninguna cosas comer," he replied. "No things eat. *Tambien, muchos diablos*—many devils."

"Old Injun stuff," I reflected. "Probably rough clambering in that dark old hole, so Moki figures to save his legs by putting up a haunted *tabu.* Just the same, I'd like to see if the inside looking out is as forbidding as the outside looking in."

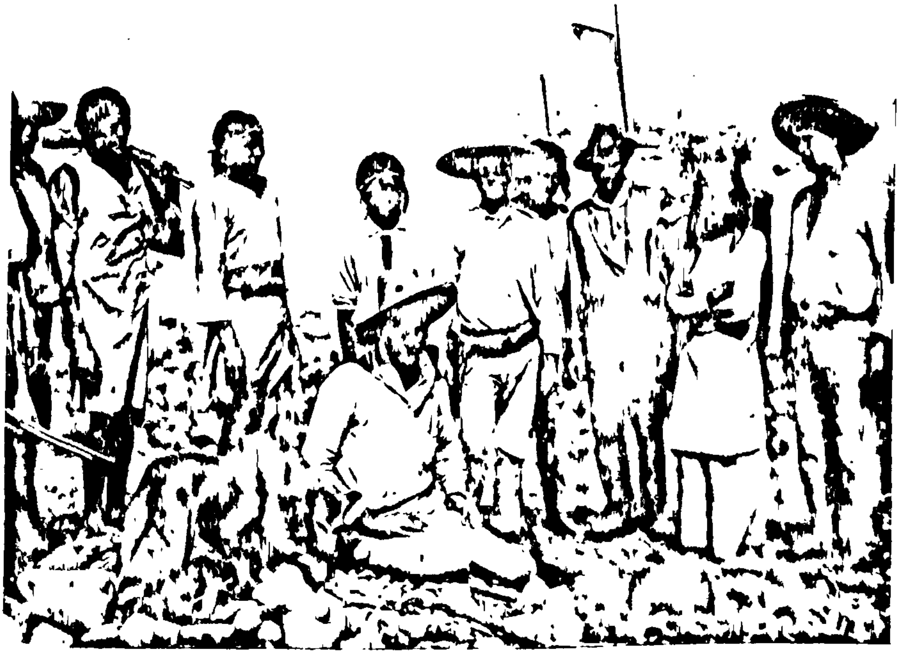
Signs of mountain sheep were in evidence all the way up the rough boulder wash which we followed from the beach of the Gulf, and a flock of fine animals were surprised at the cottonwood-shaded spring where Moki planned to pitch camp. They were gone in a shower of hoof-spurned pebbles, a magnificent old ram leading the flight up a broken sandstone cliff that looked all but perpendicular.

"There's sure a wise old brain under that crown of horns," I said to myself, "and the fellow that gets a chance to put a bullet into him will have to be as strong of leg as soft of foot and as stout of wind."

This proved all too true. A couple of hours scouting over the bare brown foothills while the Indian brought up the outfit from the boat revealed many trails and tracks but not another glimpse of a living sheep. The astonishing size of one set of tracks in the moist sand near the spring, however, proved



Native of the Colorado Delta with boat made of tule, or reed



Indians of Tiburon Island, two of whom took me to Pico San Pedro

either that the old flock leader was a veritable giant of his kind or that a young maverick steer had been watering there. The largest of a number of pairs of old horns found in the vicinity measured close to eighteen inches around the base, but all of these were too battered and weather-warped to be worth saving for mounting.

From every standpoint but that of a sheep hunter the week which followed was delightful. Quail and doves swarmed in the brush of the arroyo, also rabbits. Just to show how the trick was turned by the agile Seri, Moki gave frequent exhibitions of stalking and bringing down a long-eared "jack" with a flung stone. With his fellow tribesmen thrown out on either side to turn the quarry, the wily Indian even bagged one baffled fugitive with a blow from a *palo verde* sapling. Fish—most of them highly edible—were easily caught in the tidal lagoons of the nearby Gulf.

But getting within shooting range of mountain sheep was quite another matter. Far from cornering and catching one of the elusive bighorns by hand, as he had boasted of having done, Moki's best efforts had not brought me close enough to use my rifle at the end of six days of persistent and punishing climbing. Time and again a blur of gray-brown figures was picked up by my binoculars, only to disappear in a shower of gravel long before the circuitous stalk to get within rifle shot of their lofty vantage was half over.

Lack of cover and the endless succession of steep-sided gulches, together with the uncanny way the cliffy walls had of magnifying and projecting sound, made successful stalking all but impossible. The unusual wildness of the sheep, Moki thought, must have been due to their having been hunted recently by Mexicans or Yaquis from across the Gulf. Specimens of a size hitherto unknown certainly existed on San Pedro but shooting them appeared well-nigh hopeless.

Then—suddenly and without warning, as so frequently happens in the pursuit of wary game—luck changed and victory was in sight. Following close on a trail of displaced pebbles and slightly scratched rock which would have meant nothing to any but an Indian tracker, Moki led me to the crest of a sharp saddle between two converging canyons half way up the mountain. One stealthy glance and he had flattened down behind a spiny yucca, beckoning with back-stretched hands for me to creep up cautiously and quietly.

I cocked a questing eye over the knife-edged ridge, to behold with a quick catch of breath a long line of motionless figures, half poised for flight, turning suspicious eyes and noses in our direction from the opposite side of the narrow canyon. Scent and sound had warned that something was wrong; they awaited only the verification of sight to determine the direction in which to seek safety.

"The big one's made to order for a target," I whispered to myself, steadying rifle against shoulder. "No use to raise sights for under two hundred yards. Just aim a shade high to allow for their being a bit above us. *Cuidao, Moki! Solo conmigo. No antes!*"

Moki, highly excited, was about to go into action with his ancient "forty-four." With no time to argue the question, I merely sought to restrain him until I had the bead I wanted for my opening shot at the giant ram.

The black noses below the curving horns made a concentrated point at the blur of movement on the crest of the opposite ridge but failed to sense the deadly menace it portended. Only a nervous twitching of the white rump of the old patriarch told that all did not appear quite right to his suspicious mind.

Two pairs of eyes squinted along blue-black barrels; a pair of sights notched on a bulge of hairy shoulder and held steady.

"Uno!"

At the whispered word a sharp crack came from one of the rifles and a patch of dust several feet below the lowest of the bolting flock revealed that the man who fired it had failed to allow for the uphill shot. Moki, untutored in the sequence of the "One! Two! Three!" count, had fired at the first word—

and missed by yards.

The unexpected report and the smoke from the black powder of the old "forty-four" made me hold my fire just long enough for the sheep to launch away full tilt. They were out of sight over the ridge in a few seconds. After my shots at the flying old leader had not even caused him to falter in his flight, I drew bead on an upstanding young ram, pausing in momentary bewilderment, and dropped him in his tracks.

A well-matched pair of sixteen-inch horns on the animal brought down was a slight consolation for the loss of the big ram. Splashes of blood on the trail of the fugitive flock aroused hope that one of my bullets might have found its billet. When two days of fruitless searching failed to reveal fresh tracks, however, it appeared likely that the frightened flock had retreated to the fastnesses of the upper mountain, beyond all possibility of pursuit. With barely enough provisions left for the return voyage, I reluctantly decided to give up the hunt.

While the Indians worked on their boat and prepared to break camp, I seized the occasion for a reconnaissance of the somber gorge, the seepage from which was apparently responsible for the spring that had furnished us water. The dark crack in the riven mountain had fascinated me from the first, but after finding that a sheer cliff just inside presented an insuperable barrier to the entrance of sheep from below, I had not been near it again. The flock, apparently, avoided the bare grassless rocks of the encompassing cliffs and sought sustenance and refuge in the opener canyons to the north and south.

After vainly trying to scale the blocking cliff at the entrance of the canyon—plainly the site of a hundred-foot waterfall when rains fell on the upper mountain—I started skirting the side of the chasm as closely as I could from the north. It would be interesting, I thought, even to get a good look into the gloomy gorge from above. I would try to find a place where there was enough break in the overhang to let in light and allow unobstructed vision.

Time and again the overlapping steel-trap jaws of the abyss cut off all view of the profounder depths. Then, suddenly—where the rays of the midday sun plumbed far down into an opener section of the dismal chasm—my eyes caught the lucent glimmer of an emerald pool, shot through and through with dancing golden gleams.

"Like Aladdin's Cave," I thought, straining my eyes to discover the source of the flickering yellow light. But even as I looked a wind-blown fragment of cloud obscured the sun, and the magic cavern, with its coruscant blaze of gay colors, was then quenched in the darkness of the Inferno. Only by closing my eyes for a moment and then peering downward through half-cupped hands could I even discern the green-black shimmer of the dusky pool.

More eager than ever to probe the mysterious depths, I pressed on upward along the rim, only to have my advance blocked almost at once by a side crack breaking off at right angles to the main canyon. One nearly bridged point looked narrow enough to jump, but after noting that the crumbling abutment of black basalt was all but ready to break off and fall, I decided that it would be safer to circle the obstruction.

The sharply ascending bottom of the side crack became visible as I neared its head. A stratum of red sandstone underlay the basaltic cap of lava flow here, and down what was hardly more than a series of jumbled steps there appeared to be a practicable approach to the main chasm. The smoothness of sections of the floor of the "V" suggested that they might have been traveled over at one time.

A renewed burgeoning forth of the sunlight drew my attention to the fact that the turret of black nimbus cloud, piled every day against the western wall of the mountain by the trades from the Pacific, was beginning to stream across to the Gulf slope, possibly with a threat of thunderstorms later in in the day. I would have to bear that in mind if I got down into the main draining sluice, I told myself. It wouldn't do to be caught in there by the run-off of a desert cloudburst.

The roughest going, as it chanced, came in the steep descent from the head of the lateral crack, where there was plenty of light to secure handholds and footholds in clambering down over the mixed slabs of sandstone and basalt. By the time the rocky jaws began overlapping above, the bottom had become smooth enough to shuffle over with little threat of stumbling in the deepening duskiness. Awed but undismayed by the gloom and the uncanny stillness, I fared ahead, glancing up every now and then as breaks in the rocky roof disclosed jagged patches of sky which deepened through cobalt, indigo and purple to the opaque blackness of anthracite. Twinkling prickings of light which were no more than pale lemon gleams in the indigo dome blazed into sparkling beacons, brighter than I had ever seen in a moonless heaven, as the sky strips became solid black.

A dawning sense of spaciousness and a steady side-draft of cool damp air heralded the entrance to the main gorge. The water-scoured floor became as smooth as that of the ancient cathedral so strongly suggested by the vaulted roof and the subdued light. Groping ahead toward a faint golden glimmer of pulsing glow, I felt my way round a hairpin bend, suddenly to find myself, blinking and half-blinded by the glare, on the banks of the emerald pool I had glimpsed from the upper rim.

Not so wonderful after all! A direct shaft of noonday sunlight still set the golden motes adance in the lucent green depths, but knuckles of garnets in sandstone were an old story. I had brought a pack-sack load away from my first visit to the Havasupai Gorge of the Grand Canyon, only to find that my treasure-trove was practically valueless in the rough—that such modest prices as the golden crystal might bring would accrue from the cost of cutting and polishing. There was always the chance of the occurrence of opals in such a formation, but these would have to be prospected for with a rope ladder and geologist's hammer. The nearest of the scintillant "fists" of crystal was far beyond my reach.

Disappointing, too, was the discovery that I appeared to have entered the weird forge just below the point where it was blocked by another impassable barrier—a cliff quite similar to the one choking the mouth of the narrowed chasm at the base of the mountain. The towering ledge above the pool was plainly the head of navigation for everything but birds. This was evidently the site of another flood-time cataract, the down-rush of which was responsible for scouring out the deep round pool below. Brimming full after a storm, the contents of that basin slowly seeped away until replenished by the next run-off.

I quickly perceived that the only chance of continuing my explorations to the upper canyon lay in following a narrow shelf which skirted the pool and disappeared in the shadowy depths of a water-gouged cave on the farther side. Just possibly, I told myself, there might be some sort of passage worn through from the upper side of the barrier ledge. Too bad that I didn't have a flashlight; but a match or two would at least show if there was anything in the way of an opening.

Leaning my rifle against the side wall, I started edging carefully along the fringing shelf. This was formed of some hard rock intruding through the sandstone—probably, I thought, a seam of lava which had poured through and solidified. Tilting slightly backward, its upper side was covered with a coating of fine sand, indicating that it was occasionally flowed over by water in some of the heavier floods.

I worked along foot by foot in the uncertain light and had almost reached the mouth of the cave when a loud snort ripped out in the darkness ahead. The next instant something hard and solid knocked my legs from under me and sent me hurtling down into the pool. My consternation from the sudden blow and fall was scarcely greater than my surprise, on floundering to the surface, to find the water alive with struggling hairy bodies and the air vibrant with anguished snorts and bleats of terror. For a few moments it was hard to keep from being engulfed in the wildly wallowing mass. Then a hard-won vantage, with a toe on an underwater ledge and either hand clutching a providentially placed knuckle of yellow garnets, gave a breathing spell and a chance to realize what had happened.

The cave above the pool had plainly been a hide-out for the big sheep flock we had been hunting with such slight success. Lying low here since the shooting, the wary animals had been surprised and cornered when I stumbled upon their side canyon entrance. Waiting to the last moment in the hope of being overlooked, the old ram had led the charge for freedom only when the invader was almost upon him. Trying to crowd along the narrow ledge after the fashion of a theater crowd in a fire panic, a score or more of the band had been flung into the pool along with their arch enemy.

The rams, weighted down by their great horns, drowned in a few minutes, the old patriarch—most heavily crowned of all—being the first to give up. My worst immediate difficulty came from a troublesome trio of young ewes which kept trying to use my battered anatomy as a stairway by which to climb out. When these ceased fighting for life, I tried for a while to keep a small lamb afloat by holding its head under one elbow, but lost it when a cramping leg compelled me to change grips on the garnet knobs.

When there was no longer movement among the deeply submerged bodies, I let go my holds and began paddling slowly around in search of a favorable place from which to clamber to the brink. With the water level ten feet or more below the floor of the canyon and all the walls of the pool either overhanging or sheer save for a short space at the low end, it became evident at once that this was far from a simple problem. Moreover, it had to be solved in the hour or two that the light held. Since I would not be missed until evening, search could not possibly begin before the next morning. And—between cold water and fatigue—that was a good deal longer that I could expect to hold out, even assuming that Moki and his mates would ultimately be able to follow my tracks over the rocks.

The sun, uncovered for a moment by shifting clouds, sent down a guiding shaft of illumination just as I finished shouldering my way around to the lower side of the imprisoning pool. The golden light motes flickered fantastically on a ten-ledge or knuckle of garnet by which to climb. Fumbling with a foot for the supporting ledge on the opposite side under the cave, I felt a great hairy body turn over and come bumping up against my chest. Slowly a full circle of rounded back-foot wall of polished sandstone, quite unbroken by a single curving horns came to the surface and resubmerged. Grisly company it was, even though the horns of the big fellow appeared to be well over the limit my taxidermist had assured me would be worth many hundreds of dollars in value.

"Have to have vacuum-cupped feet like a fly to make that crawl," I said to myself with a wry grin, "even without a record-breaking sheep's head on my shoulder. Nothing to do but hold on and hope. Mebbe Moki can follow me in the dark with the electric torch. My hobnails must have scratched rock all the way. And once into the side crack, those Seri can come a-running. Just got to hang on till they come."

The golden gleams ceased dancing as the westering sun no longer reached the pool with its plummets of light. A thickening of the dusky shadows meant the blazing disc was again cloud-obscured. "Surely night is not coming yet awhile," I thought. "I've only been here a few minutes." Yet the walls were blotting into blank opacity all the way to the top. Well, if it was really evening, I was standing the strain better than was to be expected. And by now I would be missed at camp and Moki and the other Seri would be out on my trail. What could I do to bring them straight to the canyon? Not much chance of a shout carrying far outside; but who could tell what tricks the rocky sounding boards might play with the air waves? A revolver shot would be even better than shouting. If only my cartridges had shown themselves really waterproof!

Unbuttoning my holster, I drew my old Colt's "thirty-eight," drained the water out of barrel and cylinder, held it above my head and pulled the trigger. Multiplied a hundredfold by the echoes, what had been only a sharp report in the depths went rolling heavenward like a salvo of artillery. Almost immediately an answering roar came from the distance—thunderous, reverberant, many times repeated, shaking the very rock of the mountain with its shattering detonations. And on the wings of the thunder, darkness, abysmal, Stygian, descended like a flung pall.

A whoop of joy burst from my throat at the sound of the booming salvo. To my overwrought fancy this ready response could only be the answering shots from the Indians, already embarked on the search. Like the crack of my own shot, I told myself, these had been magnified by the echoes to the seeming of a cannonade. Raising my dripping revolver, I fired again and again until the chamber was empty. The ear-splitting detonations caromed back and forth between the rocky walls in the ascent, only to be muffled and quenched in the roar of the heavy artillery above.

It was these sustained rolling reverberations, together with frequent blue-green flashes of light splitting the outer darkness asunder, which finally brought home the staggering truth. It was not echo-magnified pistol shots that I was hearing, but thunder peals so shattering and violent that the force of them was communicated to the foundations of the mountain. No one was searching for me, even if I had been missed, for the very good reason that the obliterative cloudburst descending above would be scouring the very rock itself. And here I was caught, like a trapped rat, right in the path of the most devastating swath of the run-off. It would come crashing down at any moment now.

I had no illusions as to just what that meant. I had seen the ruins of an Arizona mining town which had been wiped cleanly off the side of a mountain by a cloudburst, a mile of railway track smeared from the face of the desert as though it were built of tin and match sticks. I also knew that the run-off from a violent precipitation on a barren mountainside usually consisted of three or four parts of sand and boulders to one of water. That was the mixture which had gouged the great black crack so deeply, pouring so wide a "fan" of rocks and gravel at its mouth.

The effect of this dread realization, strangely, was to steady rather than further to shake my already sorely tried nerves. Now the suspense was over. That at least was something to be thankful for. It was vastly preferable to meet the worst at once than to face a nightmare of waiting for cramps and cold water to put an end to it all. If the flood proved heavy and sustained, there was no hope, of course. If light—as not infrequently happened where canyons split up the flow—there was just a fighting chance. Not one in a hundred, doubtless; perhaps not one in a thousand. But a chance, nevertheless, and one must be all set and ready to take advantage of it.

One point in my favor, I reflected, was the fact that my toehold ledge was well back under the overhang. At the worst, the solid flood from above would be avoided as long as I could withstand being swept out under it by the backwash. Treading water slowly, I slipped out of my shirt and cinched in the belt of my riding breeches close around the waist. No use giving the sand a chance to get inside my clothes and weigh me down.

The roll of the thunder died down and ceased as a jagged streak of rock-framed light revealed torn fragments of clouds drifting across pale silver stars. A ghostly light filtered through to disclose the outline of the pool, with the rounded sides of the floating sheep studding its surface like dark boulders. After the shattering bombardment the silence was almost a palpable substance, with length, breadth and thickness, even as the rock itself.

Above this ominous quiet a new sound gradually made itself audible—a raucous, grinding roar, like that of coal running through a chute or the rattle of an anchor chain down a hawse pipe. Recognizing it as heralding the forefront of the cloudburst flood, I took a deep breath, gripped hard on my jeweled handholds, flexed muscles to press feet firmly onto the underwater ledge, and braced to receive the shock.

With a rush and a roar the blow fell as a sprawling sheet of water and rocks was flung with shattering force from the brink of the ledge far above. At almost the same instant the surface of the pool lifted violently as though driven by a spring from beneath and, caught in a maelstrom of swirling hoofs and horns, I was wrenched from my protected vantage and carried upward and outward toward the descending cataclysm of mud and rocks.

Clawing desperately at the side to keep from being drawn under the death-dealing cataract, my hand closed on a rough projection of rock, and an instant later I had drawn myself up onto the shelf from which I had been knocked by the charging sheep. The rising water was close behind, but a swift scramble carried me quickly to the dry sand of the inner cave. Knocked down and half stunned as my head bumped against the shelving roof, I continued crawling on hands and knees up the sharply sloping floor until a solid wall of rock blocked further progress. Here, twenty feet or more above the level of the shelf and canyon floor, the dryness of the long accumulations of bat guano held high hope that the vantage was beyond the rise of all but the heaviest floods.

The savage cataract of water and gravel ceased almost as quickly as it had come. In a few minutes only a trickle of thin red mud was left of the wild cataclysm. The former emerald pool rippled a brownish yellow in the strengthening light from above, its bubbling surface on a level with the canyon floor, across which drained away a frothy dwindling stream. All of the sheep—and of course my rifle—had disappeared.

Fearful of another cloudburst, I lost no time in clambering back to the outer world. To my great astonishment, the sun was still well up toward the zenith, indicating that not much over an hour had elapsed between my descent to and return from the depth. Crawling ants against the white sands of the arroyo were the Seri returning to camp for fresh pack-loads.

A narrow rain-wet swath on the upper mountain made clear why the run-off from the storm had been so slight. Only a corner of the downpour had overlapped the drainage basin of the Great Black Crack.

Scratched rock and torn earth at the outer entrance of the side gorge disclosed where those of the flock which were not crowded into the pool had taken flight. Where the flood had run its course in the thirsty sands of the lower arroyo I found a score of the battered bodies of the canyon victims. Surveying the broken and worthless stumps of several of the larger animals, it suddenly occurred to me that most of the bodies were those of ewes and young rams. That of the gigantic old leader was certainly not carried out of the chasm.

When a search right back to the great fall inside the mouth revealed only two or three more comparatively small carcasses, a hazy thought which had been forming in my mind began to crystallize into an idea. If, by a happy chance, the bodies of some of the larger rams had lodged not far below the upper pool, they would have avoided the rough battering which had reduced the others to a pulp of flesh and broken bones. Small chance of finding them, I admitted, but even the outside possibility was too important to overlook. The fact that I was still alive proved it was a lucky day for hundred-to-one shots.

Leaving an Indian on the outer rim to stand guard and give warning against another storm, I descended by the side crack to the main canyon. Bad luck at the outset! A hundred yards down the still slippery floor took me to the brink of a jumping-off place so lofty that the beam of the electric torch I had brought from camp would not reach the bottom.

But doubling back toward the pool, a tired and dejected youth stubbed his scuffing toe on a round protuberance jutting out from a wet heap of gravel accumulated in what had been an eddy formed by the loop of the sharp hairpin bend. So deeply buried that it had passed unnoticed on my hurried exit, the beam of my light now revealed it as a section of a gigantic back-curving horn. I called the terrified Seri to my assistance and much tugging, hauling and digging with the Indians' big knives uncovered the unscathed bodies of four mighty rams. Carried into the whirlpool formed by the tortuous bend when the crest of the flood swept down, the drag of the heavy pointed horns, acting like grappling hooks, had prevented their being carried farther when it receded.

There was just time before dark to drag and lift the soggy carcasses to a ledge in the side crack, above all threat from another cloudburst run-off. Three days later horns, hides and skeletons of all four specimens were stowed securely away on the Seris' sailboat and on their way across the Gulf to Guaymas.

My canny taxidermist sold the three smaller specimens to dealers or museums at prices which footed up to more than enough to pay for my whole expedition to Tiburon Island. The figure which he offered for the head of the big ram was almost fantastic. I declined it with thanks, however, and gave him an order to mount the old veteran for a place of honor in my own trophy room beside the shaggy form of what I felt sure had been a kindred spirit—a certain pugnacious brown bear from the North who had given his life to drive the gold-diggers away from the river of which he fancied himself the Boss.

CHAPTER VI

RIVER OF RHYTHM

A Stream not Ten Miles Long Leads Me Back Through Ten Centuries to Rendezvous with Romance in a Tahitian Crater.

It would be too much to expect that a tropical island so small that it could be dropped into the estuary of the Plate or the Amazon and never be missed would itself give birth to any rivers of great length or volume. But though I never knew even the Polynesian name of what I have always thought of as "The River of Rhythm," that tumbling mountain torrent was long enough to run back through a thousand years of history and carry the voyager from the common work-a-day world to the Realm of Romance. What more would one demand of the Nile, Congo or Yangtse?

If this story is more of rhythm than river, more of the flowing bowl than flowing water, more of the undulant body than the undulant rapid, it is because our stream is in Tahiti. The languorous, swooning airs of Polynesia are a far cry from the gold and gambling of the Yukon, the wild game and wild women of the Yellowstone, the mud and muddies of the Colorado Delta. Harry Sinclair's able schooner yacht *Lurline* had bridged the interval for me, and in hardly more than a year after I had been butted into the Black Crack of San Pedro by a flying bighorn ram I was dodging wild boars in the storied Typee Valley of the Marquesas and back-tracking Romance by Tahiti's River of Rhythm. In the seductive Societies as in the frozen Klondike I found that sapient old Swiftwater Bill's dictum still held. His "Remember that rivers are always your friend, kid; they'll take you where you want to go," was already crystallizing into a touchstone destined to influence many launchings, voyagings and landings in various strange world-corners where water was "yearning to get home to its resting place in the sea."

Turning back to these early South Sea days in a nostalgic mood I once scribbled in an old notebook a few verses of doggerel, one of which went something like this:

Let my heart thrill again as the tom-tom's dull boom
  Floats out from the bush in the flower-fragrant gloom,
And the shriek of the conches, the hi-mi-ne's swell,
  Wings word of the feast in the depth of the dell.
Lead my footsteps again to the forest crypt dim,
  Where firelight throws shadows on bosom and limb
Of the billowing forms of the trim tropic maids,
  When the Song wakes the Dance in the Tracks of the Trade!

It was in the course of my research as to how the Song waked the Dance in the Tracks of the Trade that I was led to a Rendezvous with Romance at the head of Tahiti's River of Rhythm.

The Tahitian is received into the world with a song, he is sped forth from it with a song, and the only time in the interval when there is not a song issuing from his lips is when he is asleep. The beat of the sea is in his blood and a sense of time and an ear for tone are instincts with him. It is as natural for him to hold a tune as it is to walk, and it would be as remarkable for him to sing flat as to fall flat. As often as not he dies with a song on his lips, and even his parting gasp is pretty sure to be in the right key.

All the missionary hymns are translations of old songs of the camp-meeting and revival order, and every one of them has the beat and swing of a sailor's chantey. These strange, lively tunes tickled the natives' fancy as soon as they were introduced, and the fact that the first meetings consisted of even more singing and less preaching than do those of today must have done much toward winning the missionary tolerance and even popularity, where the trader and the planter were ever suspended with hair-fine threads above the cooking pots. The natives, won and held through their love of hearing themselves sing, have thereby been rendered more plastic for spiritual molding. What could not have been done with them if their passion for dancing had been similarly played upon?

The two dominant sounds of island life, the boom of the breakers and the hum of the wind in the trees, may be traced through all of the native music. The sonorous chesty notes of the men's lower registers echo faithfully the thunder of the sea upon the reef, and a high, close-mouthed humming of the women is admirably imitative of the rise and fall of the wind, the rubbing of the branches and the lisp of the split palm fronds. The resonant overtones of the bass in a men's chorus is not unsuggestive of the dying rumble of a big hollow-log drum.

Dancing is the natural concomitant of singing in all the South Pacific islands, and the only occasion on which one is enjoyed without the other is at church service. As for dancing, singing is a *sine qua non.* Not only can a native not dance without a singing accompaniment, but his own voice must be a part of that accompaniment. To bind a Tahitian dancer's mouth is equivalent to tying his feet quite as much as binding a Latin's hands is tantamount to binding his mouth.

The first Tahitian dancers of whom there is any authentic record were the members of the "Areo," a secret intertribal organization of the old days, which would undoubtedly be credited to Bacchic inspiration were there any way of tracing a possible connection. The "Areos" were a roystering lot of madcaps, hardly comparable to anything else in history, but partaking something of the character of a modern choral society, a fancy dancing class and a band of brigands, with the avowed encouragement of human sacrifice, murder, cannibalism and general immorality thrown in.

The "Areo" was made up of the elite of each tribe, and the members were carefully tutored in the fine points of singing and dancing, much after the fashion of the *geishas* of Japan and the *nautch* girls of India. They traveled from valley to valley and from village like a college glee club, and the fact that their shows were open to all comers, free of charge, brought them unbounded popularity and made them welcome guests in the palace of the king or in the huts of the meanest fishing hamlet. What they desired they took, and so powerful and popular were they that there was none to gainsay them.

And then came the missionary, and the "Areo" grew less and less and finally was no more. What of its legacies? We have seen how the missionaries adopted and turned the song to their own good ends. Has the dance also had the vitality to survive without the patronage of the real arbiters of island destiny? Hardly in its pristine purity—or impurity. The *hula* in Tahiti today is in about the same state as "the harp that once through Tara's halls." The only evidence of its existence is when some overstrung string of *vahines* breaks (out) to show that still it lives.

And yet the dance of the ancient Polynesians is not quite dead. There are a few strings that will still give back a responsive chord to the twanging of the skilled *virtuoso.* I never knew but one man who had the technique to strike "The Lost Chord," and his fingers had been wandering over the frayed strings for many years before they twanged the right combination. It was he who discovered to me the source of The River of Rhythm.

An English friend asked me to lunch one day at the Cercle Militaire to meet a distinguished German ethnologist who had spent many years in the study of the fascinating problems of an early Polynesian migration from southern Asia. Wilson, after amusingly narrating several of the experiences incident to his own studies of native life, made the statement that a genuine Tahitian *hula* could not be seen on the island for "love or money," an assertion in which I stoutly supported him. The learned Teuton listened indulgently.

"Dat's a priddy zweeping stadement, chentleman," he ventured. "You haf tried money, no doubt, but haf you der oder alternative, der gindness tried?"

We were compelled to admit that nothing systematic in the way of kindness had been attempted, upon which the Doctor launched into an extended dissertation on the futility of trying to do anything with the South Sea native on a "buy-and-sell" basis. Early in his sojourn in Tahiti, he said, he had come to a realization of the banality of anything not freely given by the islanders. Accordingly, he had taken up his residence at Hiteaea, the least "civilized" village of the island, and, first by judicious presents, later by incessant intercourse with them in the affairs of their daily life, succeeded in winning the confidence and affection of the simple inhabitants. As a consequence many privileges which other foreigners had vainly endeavored to win by purchase had been extended to him as a brother, among them being attendance at the village's not infrequent festivals at its semi-secret "sing-sing" grounds in an extinct crater far up in the interior. A night of singing and dancing was scheduled for the following week, at the full of the moon, and to this the good Doctor, conditional on the consent of his native friends, invited us to come.

The invitation was seconded in good time, and on the appointed day we pushed through on horseback to Hiteaea—twenty-five miles down the rough windward side of the island—reaching there in time for a light mid-afternoon lunch which the Doctor had waiting for us. The lovely little hamlet was nearly deserted, the villagers having departed earlier in the day to enjoy a twilight feast before the dance.

Our horses carried us a few miles back from the coast where, at an elevation of about three thousand feet, the roughness and the steepness of the trail and the thickness of the creepers overhead made it necessary to abandon them and do the rest of the climb through the sweat-box of the jungle on foot. All the way up from the beach the way followed a foam-white little river. Our host, pointing out the twisting, turning,

By the mouth of "The River of Rhythm"

Warming up steps

undulant green of the rapids, said they furnished the *motif* of some of the most seductive movements which we might expect to see introduced at certain stages of the *hula* that we were going to witness.

We arrived at our destination in time for a plunge in a hyacinth-fringed pool of the coolest water we had known for months, a change of clothes and the enjoyment of a number of thoughtfully saved dainties from the feast. This had evidently been a jolly and somewhat convivial affair, but nothing of an orgy. The dancers, with laughter and snatches of song, were assisting each other with their toilets in the shelter of a wing of rustling *feis*.

The "sing-sing" ground had once been a tiny blow-hole of the great parent volcano, Orohena, and in its present condition was not unlike the "Punch Bowl" at Honolulu with a ten-degree segment cut cleanly out of one side. The smooth floor was half rock, half turf, and the towering sides of lava, curtained thickly with an impenetrable tangle of giant fern, lantana and guava scrub, and woven together with miles of endless creepers.

By a strange chance the slice of the crater's side which, undermined by the little river we had followed, fell away to the valley left a clean-cut chasm of great depth and scant width opening toward the east-southeast. Through this niche the full moon, from the moment it shows its glowing disc above a saddle in the rocks to the east, throws a sharp beam across the flower-spangled sward which, in its brilliant contrast to the almost solid blackness of the unlighted sides, shines as clearly as a shaft of calcium. In this lunar spotlight, in air almost sentiently sweet with the perfumes of gardenia and fern, the magic of these Terpsichorean necromancers is practiced.

Stretched at our ease on a patch of mat-carpeted greensward in the depths of the shadow, we puffed lazily at our native cigarettes, sipped tiny *epus* of fiery coco wine and waited for the dance to commence. The chatter in the depths of the plantain-screened dressing room had ceased, and the liquid tinkle of the drip from the surrounding walls, the distant mutter of the surf along the shore and the throaty croak of awakened wood pigeons ran like an obbligato through the fluent overture of The River of Rhythm. Overhead the stars were blurring and blotting and twinkling again, as the disordered ranks of the trade clouds shuffled on in their endless flight before the scourges of the southeast wind; but to the east, where the flickering silhouettes of the flying foxes showed with increasing sharpness against the moon glow, the sky was clear.

The leap of the moon to its seat in the saddle of the eastern hills was as startling in its suddenness as that of its glass-bulb stage-property prototype to the gauze heaven above the Grand Canal. As the shadow-mottled shaft of light impinged upon the crater floor, a single drum note boomed out suddenly on the stillness and a blur of motion was faintly distinguishable about the "green room" entrances. Presently, as the shadows dissolved in the strengthening light, scores of prone figures, motionless save for a gentle waving of the *riva-riva* plumes of the heads, could be dimly guessed, and the doctor whispered that the opening number was evidently to be the Dance of the Coconuts.

The white plumes continued to nod for a few moments and then, representing the sprouting and growth of the young tree, the prostrate dancers, to the accompaniment of a low chanting, rose inch by inch to their full heights. Now the trade wind was blowing through their tops, and they bowed and swayed and bent and recovered, while the muffled nasal chanting rose and fell undulatingly like the gusty southeast breeze. Now it was harvest time, and new figures wove in and out among the swaying trees gathering the ripe fruit, and chesty "boom-booms" in the bass told of the cast-down nuts striking the ground beneath.

After a few minutes of indistinguishable pantomime which had to do with the husking and drying of the nuts for copra, a change came over the spirit of the quiet mimetic dance. The hum of the wind rose to a shrill whistle, the low monotone of the surf on the reef changed to the deep-mouthed roars of crashing combers as hard-smitten drum logs sent forth throbbing peals of heavy thunder. A hurricane was bursting upon the coconut grove. No longer the palms bent to the caressing touch of the gentle trade. Torn by conflicting gusts, they jerked now this way and now that, thrashing limbs striking each other in the pantomime of bare arms and hands banging with resounding thwacks upon bare breasts and backs.

Wind and surf and thunder blend in a raucous roar as the storm grows more furious, and now the trees are snapping and falling before the terrific onslaught. Down they go, now falling alone, now striking others and going to the earth together. Presently all but two firmly rooted giants in the heart of the grove are tossing on the ground, and these—represented by two magnificently muscled men—lean together for support and defy the hurricane for a brief space longer. Then they, too, give way, falling to the ground interlocked, and the Dance of the Coconuts is over.

While the dancers rested and slaked their thirsts with orange wine, our host gave up a graphic description of the Volcano Dance, which is performed in the dark of the moon by the light of a huge bonfire. An imitation crater of long creepers is built at a point where there is a smooth grass chute ending in the jungle below. On the side opposite the spectators the dancers, swathed in wreaths of flaming hibiscus blossoms, enter the crater through a small opening, leap high in the air like erupting lava and go rolling off down the chute to the thunder of drums and the subterranean growls of the male chorus. From the lower end of the chute a back trail leads up to the "stage entrance" of the artificial crater, so that fifty or more dancers, with a sufficiency of orange wine on tap at the crater door, have no difficulty in keeping up a continuous eruption.

Wilson asked how long the red hibiscus trimmings stood the rolling-down part of the eruption, but before the Doctor could reply the opening drum-beat of the next dance sounded and this weighty question was never answered.

With short, sharp yells, a compact body of girls came charging out of the "green room" like a flying wedge in the good old days of mass play in football, and went scurrying straight across into the shadows of the opposite side of the crater. This was the "launching of the ship" for the Pearling Schooner Dance. Directly canoefuls of stout paddlers came towing her back into the moonlight with liana hawsers, and, all in an instant, as each of the dancers threw aloft a square of white *tapa,* she was under sail and off to sea. Now she threaded, in short tacks, the passage through the reef, and now, to low, sweet crooning like a lullaby, she bowed and curtsied and pitched and rolled in the swift-running ocean swells.

Presently she threaded another passage, anchored and took in her sails in a still lagoon. Here, with the barely perceptible motion of the schooner showing in the rhythmic rocking of the dancers, divers went over the side and brought up pearl shell. One lusty diver lent color to his pantomime by retrieving a huge coconut, the incalculable value of so sizable a pearl being told with a facility of gesture that would have put to shame a movie "heavy."

But the comedy hit of this number was the hooking and landing of a shark on a line of liana. Baited with the coconut pearl, the creeper line was thrown over the rail, to attract the instant attention of a school of glistening man-eaters, which, with crooked-elbow dorsals, went wriggling around the grass under the schooner's bows. After an amazingly clever bit of "sharp-play" about the bait, one of the "monsters" rolled over on his back and swallowed it, the crew promptly tailing on to the liana to bring the catch aboard.

The "shark," as was explained to us afterward, had drunk considerably more orange wine and coco toddy than should have fallen to his share, and the fight he put up before being landed and "cut to pieces" came pretty near to sinking the graceful pearler then and there.

Floundering and snapping his teeth in a manner that would have done credit to a monster twice his size, and roaring as no shark of any size ever roared, the gamy leviathan was no sooner laid alongside than, with a vigorous swish of his tail (both feet planted squarely in the pit of the stomach of the trim *vahine* who chanced to be representing the adjacent section of taffrail) he stove a gaping hole in the schooner's hull. An instant later his "triple row of barbéd teeth" had closed on the arm of the slender maid who, sitting on the shoulders of a tall Kanaka, was dancing the part of the mainmast, bringing her crashing to the deck squealing like a roped pig. The conventional "cutting up" of the shark, by way of punishment for this obstreperousness, must have been a bit more realistic than usual, for he still bore marks of it when I encountered him on the beach of Papeete a week later.

After being "careened" for repairs, the schooner, her hold bulging with pearls, got up sail again and started for the home port, only to encounter the inevitable hurricane and go to pieces on the rocks to the same unleashed fury of vocalized and danced winds and waves and thunder that had uprooted the coconuts. For some minutes spars, planks, and other bits of wreckage, imploring succor at the top of their lungs, eddied and swirled about the greensward; then a resistless current bore them relentlessly toward the reviving toddy calabashes in the bosky fern frondage of the wings and the Pearling Schooner Dance was Terpsichorean history.

In our host's original plan of the evening's entertainment several more numbers of the nature of those just described were called for, but the carelessness of the commissariat in dealing out the toddy and wine too rapidly ordained a radical revision of program. The sounds of revelry from the "green room" were keying higher every moment, and the good Doctor's apprehensiveness was reflected in the quick glowings and palings of his nervously puffed cigarette. When, instead of the sober *himine* which opens up the burlesque Missionary Dance, there sounded the wail of accordions, the throbbing roll of shark-hide drums and the clear deep-throated voices of the girls in the preliminary strains of the Nuptial *Hula,* he sprang to his feet to explode into excited Anglo-German-Tahatian with *"Nein! Nein! Das ist nichts was* I tells 'em. *Hare! Hare!* Go back *mit* you, you *teufels!"* But he might as well have tried to stem the tide of the Pacific as that swirling onrush from the calabash corner.

By this time the shaft of lunar calcium, broadening slightly as the moon rose, had moved across the dancing floor till its outer side was just beginning to encroach on our mat-covered dais. Instead of "Back Row, Left," as at first, our seats now occupied approximately the position of "First Row, Orchestra, Center." We were strictly in the "Bald Headed Row," and just at the psychological moment.

Like a pack of hungry wolves charging down upon a fold of lambs, the Bacchic throng swarmed out of the shadows into the spotlight about our dais, and threw itself, with the reckless abandon born of three hours of steady tippling at the toddy calabashes, into the sinuous writhings of a dance rarely performed in the past except at the wedding feasts of royalty, and now, as it is under the *tabu* of French island law, almost never under any circumstances.

To a spectator watching from a distance some suggestion of unity and team-work might have been apparent in the movements of the dance; from our advanced position, as to a man in the thick of a battle, the general action was lost sight of in the wealth of local interest. There was nothing to do but fix your attention on the nearest dancer and hope, as at a multi-ringed circus, that nothing of greater moment was going on anywhere else. Once your attention was fixed it was not likely to go far afield in search of a new center of interest.

As an exhibition of eccentric muscular action alone, this dance was worth making the voyage to the South Pacific to

The opening "hula"

see. In the slow opening movements, to a seductive half-crooning, half-chirping air, it was as though every square inch of the oil-glistening form before you was trying to move in a different direction. There was something of the suggestion of a coiling and uncoiling snake in it; something of the savage whirling columns of the "dust-devils" of the desert; but most frequently, as our host had indicated, inspiration had been found in the surging whirlpools of The River of Rhythm.

But what comparison can one find for the wild thing that springs into life and action as the music quickens and the intoxication of the sensuous movements enters into the blood of the dancers? There is still a hint of the former undulating sinuosity of motion, but at a trip-hammer speed which defies the eye to follow it; a double-action, reciprocating, triple-expansion shiver, beginning at the plume tips and ending at the toes, that would make a Newfoundland dog shaking himself after a bath look like a stuffed museum specimen in comparison.

For a minute, or two, or three—one loses count of time when elemental forces like these are loosed—this rapid-fire action continues; then they all sink into quivering heaps on the grass, with just enough breath left to raise explosive cries for the wine calabashes, a circumstance which led the facetious Wilson to remark that their enthusiasm for the dance had possibly been due to the fact that they were "shaking for the drinks."

That which was just finished was the first and mildest of the three climactic movements of the Nuptial Hula, the Doctor explained in the short rest interval. He had not anticipated that it would be danced, but now that it was started it would be an unpardonable breach of etiquette to try to stop it.

"Bezides," he added, chuckling, "you chentlemen haf bewail der decadence of der *hula* in Tahiti, and said der white man can not der 'real thing' see. In one leetle minute, *mein freunden,* you are going der 'real thing' to see, *ja wohl.*"

CHAPTER VII

"BARGE O' BEETLES"

Interference with the Voyage of a Shipload of Deported Rice Bugs Nearly Drives Borneo Dyaks on a Head-Hunt.

EVER since the late Mr. Barnum starred some woolly-headed black from heaven-knows-where as "The Wild Man of Borneo; Captured in his Native Haunts with Frightful Loss of Life, and Brought to Civilization at Enormous Risk and Expense," the world has gone on believing that the Borneo Dyak is the wildest of all wild men, and that the white man who ventures to put foot upon the shores of that island takes his life in his fingertips. This idea has been given color in later years by various and sundry accounts which have characterized the Dyaks as merciless head-hunters, and more or less magnified the risks that this or that writer, scientist or cameraman has undergone in venturing among them.

It is true that the Dyaks were, and still are under "favorable circumstances," head-hunters, but this is practiced so exclusively among themselves—in tribal feuds or in the satisfaction of traditional requirements of one kind or another—that it may be said that there are few uncivilized parts of the world where the white man may travel with greater freedom and safety than in Borneo, be it in Dutch or British territory, or in the realm of the Great White Rajah of Sarawak. Certainly there are scores of islands in the Southwest Pacific where one runs greater risks from the natives; while with the real danger one encounters in venturing among the tribes of the Afghanistan-India frontier, or those of a score of countless districts in Africa, there is nothing to compare in Borneo. One gets into what he fancies are awkward places now and then, as in the instance I am about to relate; but these are almost invariably the result of misunderstanding rather than of any bloodthirsty desire on the part of the natives to add a white man's head to the collection already blackening in the smoke upon their ridgepoles.

For the most part the Dyak confines his head-taking to the two or three that are considered imperative upon his entry to man's estate, and without which no self-respecting maiden would think of considering his overtures for marriage. The heads are still occasionally taken from the bodies of those killed in tribal feuds, but these latter are becoming rarer in even the wildest of the Malaysian islands.

As in most of the least civilized islands of the Dutch Indies and South Pacific, the natives of Borneo are divided into two classes, those of the coast and those of the interior. The Sea Dyak—the inevitable consequence of his more intimate contacts with the coastal Malays, the Chinese and the whites—is more sophisticated than his brother of the interior, but the latter has clung more tenaciously to the ancient tribal customs. The Land Dyak is a high-strung, sensitive savage, intensely superstitious in nature and given to connecting the most trivial events of his daily life with Antu or spirit influence. With many traits and customs in common with the coastal native, his honesty, simplicity and general amiability make him by far the more attractive and likable of the two. The fantastic but amusing events which I am setting down occurred on the occasion of my first encounter with Land Dyaks.

Our little party of four had boated for several days up the Rejang, the principal river of Sarawak, and one evening found ourselves crossing a broad stretch of open water, where a large tributary flowed in, toward the big village which could be dimly guessed at a point a little above where the main river took up its course again. As we neared the shore a considerable commotion was observable about the water front of the village, interest appearing to focus at a point upon the bank immediately in front of the large house of the headman. We saw them, to the accompaniment of great shouting and singing, put something into the water, and presently, bobbing daintily along before the gentle evening land breeze, the neatest little model imaginable of a Dyak sailboat came down to meet us.

My three companions—all young rubber planters from British North Borneo side—were almost as untutored in the customs of the Sarawak native as myself; but we all of us had heard of the hospitality and kindness of the Land Dyaks, and at once jumped to the conclusion that this pretty practice was a way they had of welcoming the stranger to their village. The nearing argosy would probably be freighted with mangosteens and other rare fruits, we told each other, and paid the thoughtful senders many pretty compliments as our swiftly paddled canoe bore down upon the graceful little craft. Our boatmen grinned as we lifted the dainty model aboard—it was but three feet long and complete in every detail—and no wonder, for it contained, not the freight of luscious fruit which we had so fondly anticipated, but only five small bugs of different species, all alive, and all tethered to the slender masts with thin strands of some vegetable fiber. These, and a few blades of green rice, were all the fairy ship contained.

But if our boatmen seemed to find amusement in the occurrence, quite different was its effect upon the concourse on the bank. No sooner did they observe what had happened to their little ship than the singing and the dancing stopped and all voices were raised in a great wail of protest and lamentation. Plainly we had committed about the worst kind of a breech of Land Dyak etiquette possible; perhaps even spoiled our chances of getting more paddlers to push on up river with, for this village was the limit beyond which our men from the coast—Malays and Sea Dyaks—refused to risk their heads and their boat.

A swiftly paddled canoe was alongside before half the remaining distance to the village was passed, and a handsome young fellow, resplendent in brass and shell arm- and leg-rings, indignantly demanded the return of his pirated craft. We acceded with the greatest alacrity, bidding our interpreter to make the most abject and sweeping apology that his tongue and imagination could frame. This relieved the tension of the situation somewhat, and we had opportunity to inquire regarding the nature of our offense, learning, to our chagrin, that our men had known all along that the dispatching of the little sailboat with the bugs was a piece of Land Dyak magic for getting rid of the pests that were eating their rice, the efficacy of which magic was believed to be destroyed if the ship was so much as touched by human hands on its voyage to the sea. The reason that they had not warned against our taking it up, our paddlers said, was because the pests were being sent to ravage their own rice fields, and this catastrophe had been averted, they believed, or at least postponed, by our action.

There was a distinct chilliness to our recption when we landed, but after we had scattered apologies with one hand and brass wire and beads with the other for an hour or so, things took on a cheerier aspect. We were told that on the morrow, if none of the bugs had died in the interim, the little ship would be launched again on its Voyage of Destiny, and that we might be present at the ceremony; but if even one of the insects perished, the whole week of preparation would have to be gone over again, and on no account could anyone be allowed to leave the village during that period.

After that, the giving us a canoe and paddlers would depend upon the rulings of the Antus, who would let their dread will be known through the medicine-man. But in any event we must promise not to allow any of our men to leave the village on their return until the Ship o' Beetles had had full time to reach the coast. If they attempted to escape before that time they would be pursued and—brought back. That was the way the headman—he spoke some Malayan and could therefore hold broken converse with my planter companions—put it; but we knew very well that only a part of each one of them would be brought back, for there is no head by which a Land Dyak so truly sets store as that of his cousin, the Sea Dyak.

As a week's delay in any case, with the chance good for not being able to proceed at all in case the Antus were of unfavorable mind, hinged on the health of those tethered beetles, it may be understood that their condition came in for not a little discussion that night. One of us recalled that the "big yellow one" was near to being bisected by his halter; another, that the "shiny green one" was nervous and irritable and seemed to be in the habit of flying around the mast and getting hung in mid-air; another, that the "horny shelled one with mottled wings" looked droopy and anemic, and hardly strong enough to last out the night. The "long, slender black one" had his side crushed in, someone remembered, and the "little gray one" had almost slipped its tether. We told each other that the cats or the birds might get them, that the smoke of the "doctor's *pintu*" might smother them, that the very weight of the responsibility which rested upon their shoulders (this a feeble attempt at facetiousness) would crush them; and when, at daybreak the next morning, we swarmed out to find them all hale and hearty, our surprise and thankfulness knew no bounds. All the long forenoon some one of us stood guard over the preciously freighted shiplet, and no bulletins from the deathbed of a beloved sovereign were ever received with more anxious interest than were the reports which each succeeding man, as he came from his turn "on watch," brought of the condition of those five roped beetles.

"Nine o'clock—one of the black bug's legs has slumped off but he seems otherwise to be cheery and chipper. The others are resting quietly."

"Ten o'clock—the 'little gray' slipped its tether and seems to have been injured internally in being captured. It has not moved for half an hour. Others lively."

"Eleven o'clock—the little gray is spryer than ever and does not appear injured in the least; the black one and the yellow one started fighting but were separated before either was harmed."

"Twelve o'clock—all quiet along the Rejang this noon!"

So the bulletins came in all the afternoon, if anything, growing more favorable as sunset, the hour for the relaunching, approached. When the great disc of the sun dipped behind the wall of greenery on the opposite bank of the river, the ship was carried down to the grassy slope which led from the headman's *pintu* to the water, there to await the fateful moment when the chief would give word for the launching. Every soul in the village appeared to be present, as well as representatives from the neighboring settlements which were interested in putting an end to the rice pests.

The golden light came filtering more thinly through the distant tree tops, and then ceased altogether. The chief looked at the *manang,* or doctor, who nodded his approval and gave the word for the launching, starting a measured, deep-chested chant which was presently taken up by all the assembled multitude. Two men lifted the boat and started carrying it to the water's edge. Half way down one of them slipped slightly, and in recovering his balance the ship was thrown sharply on her beam ends. Three of the beetles rose in alarm and began weaving about the mast; the "little gray" only huddled up indifferently and went sliding across the deck to bump up against the choleric "big yellow" in the port scuppers. The latter drew back for a moment as though in surprise and then, an onrush of unsatiated appetite seeming to assail him all at once, darted forward and swallowed the "little gray" at a single gulp.

Instantly the great crowd was in an uproar. Everyone was shouting or gesticulating at someone else, the principal center of contention being, not the little ship which careened unnoticed on the greensward, but a little knot of men who had backed up into an embrasure in the roots of a towering *trmandu* tree and appeared to be protesting their innocence of some offense the others were charging them with. For the moment all that was clear to us whites was that the launching was indefinitely postponed, and that something very lively in the way of a fight seemed highly imminent.

All the men were gripping the handles of their *parangs* as they roared at one another, while the women commenced backing apprehensively out of the orbit of disturbance, the latter always an ominous sign among any savage people. Evidently we were booked to see something in the way of head-taking after all, and, thanking our stars that the demonstration did not appear to be directed against ourselves, loosened our revolvers in their holsters, bunched up together for safety, and waited for the fun to commence.

The shoutings and denunciations increased in vigor, and flashes of half-drawn *parangs* glinted here and there in the crush about the tree. The brown faces in the angle of the buttress-like roots were yellowing with apprehension and terror, and a half dozen pairs of eyes shifted this way and that in search of some avenue of escape. Suddenly those of the fellow who seemed to be the headman of the party rested upon us, where we stood ranged in line upon the bottom of an upturned canoe, instantly to flash up with quick intelligence as their owner appeared to be struck with an idea.

A look of hope flared up in his face and, extending his hand in our direction, he began shouting excitedly at the ominous press which hemmed him in. Presently the crowd began paying heed to his words and fell silent, apparently much impressed by what he was saying. Soon all eyes were turned upon our little band—our boatmen had struck close to us for safety—and in their angry glowerings there seemed unmistakable menace. Evidently the accused chief had succeeded in diverting suspicion from his party to ours; plainly we were about to be attacked. One counseled fight, another parley, and another flight; and a good deal of the same diversity of opinion appeared to have been shared by our men, for the four Malays cut and ran for the jungle at once, while the three Sea Dyaks boldly drew their *parangs* and stepped out to sell their heads at a proper price.

But that nothing of a belligerent nature was on the tapis appeared almost immediately. Hands dropped from *parang* hilts, the tense lines faded from the yellow faces, and all hostility of attitude was cast off as quickly as it had been assumed. We did not learn of it for an hour or two, but the inspiration which had come to the threatened chief had been merely to point out to his would-be assailants that the taking of a head was punishable with five years' imprisonment, and that, with white men present, all the details of the bloody affair would be sure to be reported to the Great White Rajah at Kuching, the length and the strength of whose arm they had good reason to remember.

For the moment, very naturally, the Dyaks of the village regarded us much in the same way as the small boy in the act of robbing a bird's nest looks upon the inconvenient person who chances along and makes that consummation imprudent. Probably, if he gets the chance, he will rob the nest later, and I have no doubt that, if a favorable opportunity ever offered, our village friends will have had the heads of the small bunch of their neighbors whom they had cornered that evening in the angle of the buttresses of the big *trmandu.*

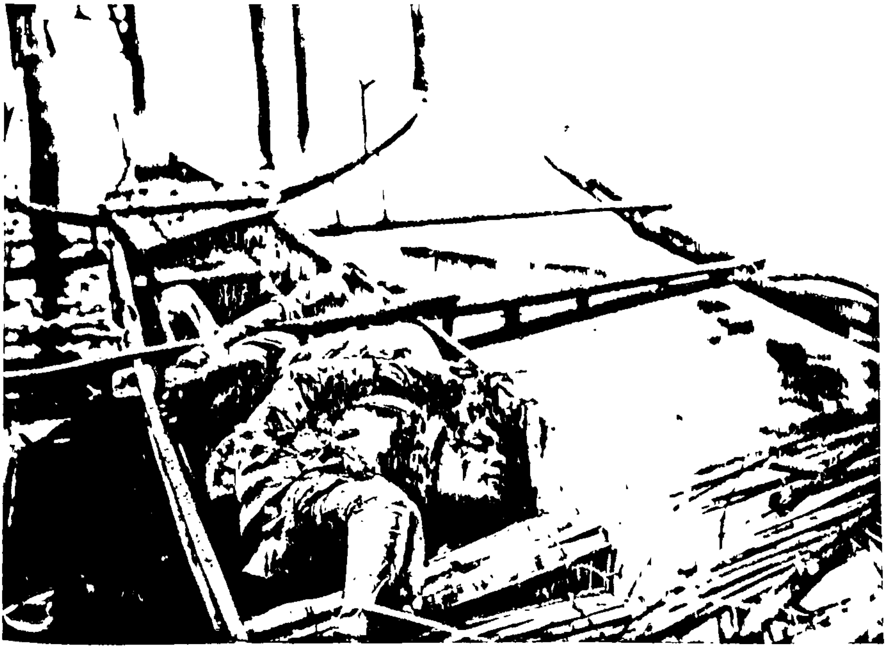
All of this sounds strange and incomprehensible when told without explanation in the order in which the events unfolded themselves to us. Here were we, a party of white men, traveling with a passport issued by a Resident of Rajah Brooke held up indefinitely because we chanced to pick up a little toy boatload of bugs which drifted athwart our course in the river. And now the Dyaks were ready to cut off one anothers' heads because a large yellow bug had swallowed a small gray one. Surely the thing needed a deal of explaining. This we demanded, and received, in the course of the evening; and, though the workings of the mind of the untutored savage in any matter where magic is concerned are beyond any white man's complete comprehension, yet the idea behind the weird performance, together with the reason for the trouble at the "launching," were made fairly plain.

We had already been shown the ravaged rice fields and been told that the launching of the little boat, with its strange passengers, was the culmination of a ceremony for getting rid of the pests which were responsible for the damage. Specimens of all the insects which are known to eat rice are brought in by the people, and the largest one of each variety is selected for "transportation." These, to the accompaniment of much singing and dancing, are put aboard a little boat which has been especially constructed for the occasion and blessed by the "doctor," and sent off down the river to lead their cohorts to the rice fields of the coastal natives and away from those which they are now infesting. The chant which is sung at the launching even directs them to specific localities where the best foraging will be found, as the translation I will set down presently shows.

The ravages of the pests on this particular occasion had been severer than usual, and more widely spread; so that when our village announced its intention of holding a "launching bee," several of the smaller up-river settlements, having more faith in the former's doctor than in their own specialist, begged permission to participate in the ceremony.

Among these villages was one distant about forty miles up the big tributary of the Rejang, with which the settlement at the forks had maintained a head feud for many years, but with which, at the present moment, a balance of trophies having been struck, there was a sort of armed neutrality. The half dozen delegates from this village had brought with them, in addition to the three or four bugs which had long been known as rice-eaters, two others which, while often observed in the paddy fields, had always been looked upon as devourers of the rice pests rather than of the rice itself. Neither of them had ever suffered the indignity of transportation before and, after a day's technical discussion by experts, it was decided that only one, the "big yellow," should be given the

Borneo Dyaks. The man in the center is about to make fire by rubbing sticks together



The Dyak head-hunter's return

distinction of a trial voyage.

The ill-feeling engendered by the dispute had been simmering all the time, and when the "big yellow" had revealed the unmistakable fact that it was indeed a rice-pest parasite by gulping down the "small gray" just previous to the second launching, it boiled over at once. The treacherous visitors had all but trapped them into banishing forever the very insect which it was to their most vital interest to keep and increase. Surely it was a cunningly devised scheme to do them harm, the insult of which could not possibly be wiped out with less than the blood of the offenders' severed heads.

The young chief assured us without a blush that only our presence had prevented his taking an immediate and summary vengeance, which now, he regretfully added, would have to await a more favorable opportunity. The quaking visitors, followed by taunts and threats of what would happen the next time any of their village chanced that way, were allowed to go to their boat and pull off up-river. Us, as having been the means of preventing the calamity which would have followed the sending away of the beneficent yellow parasite, the chief publicly thanked, promising all the assistance we required for the continuance of our voyage as soon as the final "launching" was over.

This event, after a night and day of exorcism by the "doctor"—including, we were told, apologies to the cruelly wronged yellow parasite—took place the following evening. It went off most auspiciously, and the occasion presented us with a final opportunity to establish ourselves in the good-will of the village. The shouting which followed the launching of the "bug special" had given way to rhymthic chanting and dancing, and in the drone of the singing we fancied that we recognized the familiar names of several localities along the coast. These were the places, explained the chief, to which the pests were being sent, and he freely translated into Malayan the words of the endlessly iterated refrain. One of my planter companions who, before the cockroaches ate the strings and the white ants the big fiddle itself, had been wont to while away his long evenings playing the 'cello, had a good ear for music and quickly caught the air of the chant; another roughly ranged the words into rhyme.

Did the chief think that a bit of English chanting would help speed the auspicious venture? He did. Let him and his people listen, then!

Twice or thrice we tried it under our breaths to perfect the harmony and teamwork, and then, with the 'cellist leading on a pigskin tom-tom, and the rest of us beating gongs or hollow logs, we sent this admonition booming down the river to the guests of honor on the disappearing shiplet:

"Go you to Kudat, to Brunei, Sandakan,
Tarry not on the way, do not disperse;
Go to the lands of your fathers and mothers,
Come you not back here our rice fields to curse."

The next day, with the best canoe and boatmen that we had during the entire trip, we were sent on our way, followed by the blessings of the assembled villagers. When we returned, a fortnight later, not a rice bug was to be seen, and the ravaged paddy fields were again springing into their pristine velvetiness of verdance. The voracious pests had all disappeared within three days of the final launching, the Dyaks assured us.

A few days later I asked the Rajah's British Resident at the mouth of the river if he thought that our chant really had anything to do with the apparent miracle.

"Perhaps it did," he replied with a grin; "stranger things have happened in Borneo. But more likely the fact (which seems to have escaped the researches of the Dyak entomologists) that the limit of the lives of the several insects which eat the growing rice is about ten days was a more potent factor."

* * *

The principal villages of the Sea Dyaks are situated between the Sadong and the Rejang rivers, and the more warlike of them took a vast deal of punishment at the hands of the White Rajah's military expeditions before acknowledging his authority and consenting to give up head-hunting, which, though still quite popular as a pastime, is held in check by the menace of long imprisonment for each head taken.

The Sea Dyaks are small in stature but well proportioned. They are stockily built, with broad chests and graceful limbs, though usually not of great muscular development. The skin has a brownish tinge, but in its lightness has more the color of that of the Samoan or Hawaiian than the Malay. The face is broad, with high cheek bones, and a cool resolute look of easy independence gives the lie to a chin that is pointed and rather suggestive of weakness.

The women as a rule are less elegantly shaped than the men, and their faces, though often pleasing, are decidedly Mongoloid in character. Their only garment, the *bedang,* is the regulation strip of cloth, tucked in at the waist and falling to the knees, worn by all the natives of Polynesia and Malaysia. But a unique and striking feature of their dress is a sort of corset made of rings of thick brass wire which, beginning at the waist, where it fixes the *bedang,* ascends in broadening spirals to above the breasts. The spirals are connected with other pieces of wire, which deprive them of all elasticity and render them quite as rigid as their most heavily armored prototypes of the enlightened Occident.

Under foreign influence it has become the custom to make these cages so that they may be removed at will, for bathing and even for sleeping, but in the Sea Dyak villages which I visited on my river trips into Borneo this reform had hardly begun to make itself felt. There, on reaching maidenhood, a girl had a loose brass corset of a fashionable shape built about her, and to this form her figure had to grow, whether it chanced to be along the lines of her natural expansion or not. One saw budding stalks of maidenhood moving about in roomy brass boxes like canaries in a cage; blossoming maidenhood swaying gracefully in the comfortably filled confines of the gleaming rings; blooming womanhood with indignantly protesting anatomy fighting for freedom above, below and through the interstices of the all-encompassing spirals; and bloomed womanhood, wrinkled bags of bones, rattling about in the sounding brass as they might in the long wooden boxes toward the edge of which they were tottering.

Only extreme sickness—usually only the foreshadow of death itself—gave warrant for the removal of the galling grill, though it was occasionally done in cases of bad stomach cramps and childbirth. As a rule, however, a woman preferred not to unshackle herself for the latter ordeal, there appearing to be a sort of belief that, if it could be endured without the removal of the beloved cage, something of the strength and brightness of the brass would enter into the little pilgrim.

The favorite weapon of the Dyaks, along the rivers on which I met them, was the *sumpitan,* a blow-pipe which, in itself and the darts used for it and in the method of poisoning the latter—bore a striking resemblance to that of which I was to have intimate firsthand experience among the tribes of the Upper Amazon. The efficacy and power of this strange weapon depends almost entirely on its having a straight and uniform bore.

The *sumpitan* darts are six or eight inches long, fitted at one end with a slender point of steel and at the other with a cylinder of pith, which serves the double purpose of giving the propelling air a surface to work upon in the blow-pipe and of steadying the arrow in its flight. The wound it inflicts is the merest prick, which accounts for the fact that the blow-pipe, both in Borneo and elsewhere, is used only by those tribes which have the means of making, or securing through exchange, a powerful, quick-acting poison. That used in Borneo is supposed to be made exclusively from the sap of the upas tree, a variety of which, in common with some species of the strychnos, furnishes the poison of the Amazon basin tribes.

To make this poison the milky sap of the upas is collected by cutting the bark, much as the rubber tree is tapped, and allowing the viscous juice to run out on palm leaves. These leaves are folded so as to cover the gummy sap, and hung over a fireplace until that substance is dried to thin flakes. When the poison is wanted some of these flakes are put into the juice of the root of the tuba plant, itself so powerful a poison that it is used by all the Malayan peoples for stupefying fish. The upas is dissolved until it becomes of a pasty consistency, when it is ready to spread upon the tips of the *sumpitan* arrows. In the absence of tuba, tobacco juice may be used as a solvent, but the resultant mixture is less deadly. Darts thus treated preserve their efficacy for two or three months, and if the bitter seddi is used, for as much as a year.

A dart of the latter character, in the possession of a returning government official whom I met on a Borneo coastal steamer, although it had been thoroughly washed in boiling water, nearly caused the death of a child who found it and promptly used it to illustrate to another youngster the manner in which he had been vaccinated by the British doctor in Sandakan.

In using the *sumpitan* it is not so much what you do as the way you do it. At your first blow you may not more than force the dart out of the muzzle, and it is only when you have acquired the Dyak's sharp, explosive puff, which starts with a violent up-kick of the diaphragm, that speed and ultimate accuracy may be attained. It appears that the bottom-of-the-lungs pressure is the key to the whole thing. An old Dyak "sumpitanist" has a bunch of knotted muscles about his middle abdomen, and it has been fully established that intestinal rupture is confined almost exclusively to those tribes that use the blow-pipe.

The soreness of the abdominal muscles the day following your first hour of *sumpitan* practice is comparable only to that which follows a similar spell of broad-jumping after a long spell of physical inactivity.

Early Dyak warfare usually consisted of sudden assaults on undefended people. Booty and glory to be won in combat were secondary considerations; the head was the thing. And it did not matter much whether it was taken from a defenseless or unsuspecting victim of either sex, or from a harmless villager suprised in his sleep. A warrior's prowess and bravery were secure in the eyes of his neighbors and fellow tribesmen if he was only in possession of the coveted trophy; the end justified the means. It is asserted that the title-deeds to nobility among the Dyaks consisted in the number of heads that a man and his ancestors had collected.

Not infrequently a Dyak started on a head-hunting expedition by himself, just as a man would go duck-shooting in Missouri. To obtain a head was his crown of glory, a certain bringer of good luck, a sure dissipater of evil. And on certain occasions it was the bounden duty of the Dyak to get a head or consider himself dishonored. The principal of these was when he desired to wed, for not the lowliest of Dyak maidens, nor the youngest, would deign to entertain attentions from a man who had not one or more skulls blackening on the rafters above his fireplace. To say that a Dyak had taken a wife was to say that he had taken a head; for not even today, with a five-year penalty hanging over the poor wretch caught in the act, is there observable any tendency on the part of these spoiled beauties to be won in any other way. Also, the taking of a head was considered the only honorable way for a man to go out of mourning for the death of a near relative.

The *bangkong* or war canoe of the Dyaks—in one of which I made a short non-official river voyage—were built especially for raids and sudden surprises. They were remarkably light and manageable, considering their length, which was often in excess of eighty feet. They were not, like most of the smaller boats of Borneo, hollowed from logs, but were veritable "knock-down" affairs, constructed of planks bound together with throngs of *ratong,* and could be set up or taken to pieces at will. In the old days of steady raiding, when a party of Dyaks found themselves pressed by superior numbers, they would land, knock their canoes apart and scatter, a plank to each man, into the depths of the trackless forest.

The Sea Dyaks are great lovers of festivities, and on such occasions spend night after night in dancing, singing, eating and drinking. Their favorite drink is a sort of palm wine, lucently limpid to the eye, smoothly sweet to the tongue, an innocent, self-effective kind of beverage which has a way of waving you deferentially on ahead and then stepping in and flooring you from behind after the manner of the attack of a night club punch upon a débutante. Alternated with *arak,* a spirit distilled from fermented rice, it seems to awaken a sort of militant playfulness, a yearning to hear and see the crash and flash of naked *parang* blades that is not entirely soothing for a river-voyaging stranger with delicately strung nerves.

They may start sham-battling between themselves any time after this mood begins to mellow them, and as long as they confine their attentions to one another it is not entirely unamusing to see two quondam head-hunters, one, perhaps, with a Chinese gong for a shield, and the other with a turtle shell, belaboring the air and each other with the flats of their gleaming *parangs.* But any time from this juncture on one of your solicitous hosts is sure to mistake your quiet attitude of deferential attention for one of boredom and to feel himself called personally to minister to your pleasure. Ripping forth an ear-splitting yell he charges on you and deftly executes his favorite head-severing swoop just under your nose. You, not having had quite enough *arak* and palm wine to enter fully into the spirit of the well-meant sally, blink, duck, leap back and probably turn a sickly white around those lips you were trying so hard to force into a grin of nonchalant amusement.

Mistaking the liveliness of your movements for gestures of interest, the genial fellow returns to the attack. Somehow he seems to remember that you back-stepped before, and this time he allows for that in his sweep. Of course you back-step again, and in no uncertain manner; but the cool breeze of the *parang* flashing between your upper lip and nose not unnaturally awakens a conjecture as to what might have happened had you obeyed that hasty impulse to show bravado and stand your ground.

You look around for sympathy and succor, only to find that everyone is laughing at you, some so violently, in fact, that they are rolling on the floor in the delirious abandon of their mirth. That gives you an idea. How would it do to feign laughter and roll on the floor yourself, and keep on rolling, and rolling, and rolling—to the shelter of the bush and safety? Remarkable thing what that combination of palm wine and *arak* will do to a man's legs—and his imagination.

The Sea Dyaks have solved the problem of conjugal and family life in the simplest manner. As with the Igorots of the Philippines, trial marriages are the rule, and a man or woman may have lived in this relation many times before finding the mate with whom either is content to live out life. A girl of fifteen may have had three or four husbands without lowering her standard in the community. The causes of divorce are numerous and often capricious, but in many of them one finds our old stand-by, "incompatibility of temper," masquerading under other names but serving just as sweetly.

The Dyaks are always in more or less of a state of anxiety regarding the spirits or *antu,* which they believe they recognize in every familiar sound and manifestation. They believe that these spirits, wandering in the forests and hiding in the trunks of hollow trees and among the rocks, make the care of the affairs of mankind their sole business. To learn of the intentions of the *antus* toward them, especially in times

A Sea Dyak home, Borneo

of trouble, the Dyaks endeavor to draw omens from the liver of a slaughtered pig. This work is performed by the usual medicine-man, here called a *manang,* always a mysterious oily individual, who dresses as a woman and is supposed to have the power of exorcising unfriendly spirits.

As I learned from much experience—often annoying but occasionally amusing—the greatest difficulty one has to encounter in voyaging far into the interior of Borneo is in the matter of securing boats and men for transport. As a rule the men of one village do not care to risk their valuable heads beyond the next, so that one is nearly always at the mercy of each successive headman for the means of proceeding farther. If the weather is fair, crops good and there is not an unusual amount of sickness, you will probably fare all right; in other event the chief is not likely to lend aid until he is satisfied that the *antus* are agreeable. This investigation, of course, falls to the "doctor" to carry out; and the pig-liver test is the one almost invariably resorted to. If the liver of the sacrifice is of even color and folded smoothly over the stomach, the *antus* are deemed to be agreeable that the desired transport be furnished; but if it is mottled and crumpled up in disorderly fashion, it is taken to mean that the spirits are opposed.

After I had been vexatiously delayed by "bad" livers on several occasions, a Dutch botanist from Java gave me a tip which was to prove the open sesame during the remainder of my Borneo river voyagings. Collecting orchids for the Buitenzorg Gardens, he had made the discovery that the troublesome porcine abnormality was the consequence of a mild but widespread form of blood disease, the outward evidence of which was visible only in a slight redness of the membranes of the eyes. Thereafter he influenced the choice of a sacrifice to the extent of inducing the *manang* always to kill a clear-eyed pig. From that time on he became famous throughout both British and Dutch Borneo as the only foreigner whose comings and goings were never opposed by the *antus*.

Although not always able to make a *manang* kill the pig I picked, and never quite a hundred per cent perfect in my diagnosis of the bearer of a proper liver, nevertheless, the practice of this "clear-eyed" system operated to give me an "All Clear!" on a number of occasions on which there might otherwise have been delays over boats and paddlers.

CHAPTER VIII

"RIVER-BABY"

The Bush Papuans Killed My Guide and Friend, but in Escaping Down River in One of Their Canoes I Unwittingly Kidnapped a Village Belle.

THERE was no dearth of warnings that the black-flowing rivers of Dutch New Guinea would lead me back to trouble and even tragedy, but that one form of my difficulties should develop in just the way it did was hardly to be read in the cards or counsel. I steered clear of the danger zone of the interior for many weeks, in deference to advice that it was the wise thing to do, and it was the memories of the fortunate way in which I had repeatedly muddled through in my voyaging among the Land Dyaks of Borneo that finally tempted me over the border line with the Papuans. That was the culminating event of a series of highly interesting coastal and river estuary jaunts, and the grim high lights of the short-but tragic river sally back from the sea will be set down in due course.

* * *

"I understand that the north coast of New Guinea is comparatively safe," I said to the First Officer as the Dutch steamer headed out of Sourabaya for the run to Macassar.

"Oh, yes; perfectly so," he replied in his exact Holland-English. "Deep water, good harbors, no typhoons; nothing to worry about at all."

"I mean for men, not for ships," I hastened to explain; "safe on the land, not on the sea."

The Mate smiled a smile of pleased reminiscence. "For men— Åh, that is another matter. I owe the fact that I am

Chief Officer at twenty-six to the fact that the country is not as safe for men as it is for ships."

That sounded like the beginning of a story, and I sensed that it might be worth while to decoy the Mate under my electric fan with the suggestion of a cold drink. He ordered a diminutive gin-and-bitters. But the story was no longer than the beverage; in fact, I believe it was finished first. This is about all there was to it:

"The First Officer went ashore at Pom, in Jappen, last voyage, and when it was time to sail we found he had not come aboard. We made a search and finally found him lying in a jungle path, less than half a mile from the village, with a spear driven through his back. Not even his watch and purse were gone. So the Second Mate was made First Mate. I was the Second Mate."

* * *

The transition from the tranquil Moluccas to savage New Guinea is startling in its suddenness. For a fortnight the steamer touches at the well-ordered little ports of the Spice Islands, first settled of all the Dutch East Indies. All this comes to an end at Ternate, and the complete change in the personnel of the passenger list indicates that there is something different ahead. Tourists give way to soldiers, and planters to Chinese and Arab traders and Malayan bird-hunters. The first class, save for a solitary scientist, army officer or missionary, is deserted, while the second class is literally packed with Chinese speculators who, with some hundreds of thousands of guilders of coin in their strong boxes, are off to make the season's first purchases of bird of paradise skins. On the deck are several hundred transient natives and a large band of prisoners sentenced to life terms of labor in New Guinea.

Manokuari, which was occupied for a while by the Portuguese and which has been visited for centuries by the Chinese, is the capital of northern Dutch Papua, but for all its splendid harbor and incalculably rich hinterland, it differs from the regular run of little trading villages only in having a handful of soldiers, a post office, a Resident and half a dozen stores. Here I began getting really definite information about conditions in Papua.

"There never has been, and probably never will be, fighting of any importance with the Papuans," said the Resident. "They are probably more loosely organized socially than any other people in the world, and two villages will rarely combine for an attack upon a third. On the contrary, in fact, it is by no means uncommon for a village to divide within itself upon some question, following which the weaker faction will be driven out by the stronger one and forced to seek a new location. And in some villages—notably those about the Monswoon Lakes—almost every household seems to have a standing feud against every other, and constant fighting is going on."

"What is the chance for a short run into the interior," I asked.

"That depends on how you go and where you go," was the reply. "Bearers are the greatest difficulty, and the two or three expeditions of exploration which have been attempted have failed signally through inability to move their baggage. You may have a hundred Papuans promised, start with fifty, and at the end of a week have none. For an eight or ten days' jaunt, with no outfit of any kind and, say, five soldiers, you could get on with a half dozen porters and as many tried men who would be fairly sure to remain with you. You can get reliable men here. After that it is only a matter of finding a place where the natives have no 'debts' to square with the whites."

"What do you mean by 'debts'?" I asked.

The Resident smiled grimly as he answered: "If a white man kills a Papuan, no matter what the provocation, or a Papuan dies in the service of a white man, the native's life is 'charged' by his relatives, wherever they may be, against the whites in general, and it is the custom to square accounts with the first representative of the race that falls handy. That's the uncertain part of it, for a man can never be sure when he ventures among strange natives just what the condition of their racial 'balance sheet' may be."

I asked if there were any pleasant, salubrious sections where the balance had been struck for good and the books closed; some place where nobody "owed" anybody else his life. I had been thinking of Humboldt's Bay, near what was then the German border.

"That wouldn't do at all at the present," said the Resident. "The recent exploring party which the Dutch Government sent out from that point had three bearers drowned in a flood, and the Papuans have sworn to 'even up' at the first opportunity. Since that time no one, unescorted, has moved very far out of sight of the barbed-wire enclosure of the Post, and so the account is still outstanding. You couldn't pick a more unpromising place just now."

"How about Jappen?" I queried. "I have heard that it is much the best place at which to see the bird-hunters at work."

"That island would be well worth visiting," was the answer, "but unfortunately we had to shoot two or three of the blacks in clearing up the affair of the Packetvaart officer whom they speared—the one the Mate of your steamer replaced. That we happened to shoot the wrong man hasn't helped matters any, I dare say."

So we went over the map—bay by bay and port by port—my disappointment increasing at each fresh instance of a Papuan settlement which had an account to square. Windessi wouldn't do because the natives attributed a recent epidemic of smallpox to a visit of the Dutch gunboat. Djamna had best not be visited because, when a chief's wife had given birth to a dead child a month ago, the natives had only succeeded in half killing the missionary who they had decided was responsible for the miscarriage, and they were still looking for someone to kill more thoroughly. "Partial payment wasn't acceptable," said the Resident in a weak attempt to brighten up matters.

Mokmer was unsafe because relatives of one of the bearers drowned with the Humboldt's Bay exploring expedition were living there and might be "balancing books." Sœpœri would be risky because the chief was in feeble health and any change for the worse would be attributed to the presence of a white man, who would have to pay accordingly. Korido was uncertain— It was about at this point that I begged the Resident to stop, saying that my desire to see the interior of New Guinea did not extend to a willingness to pay any of these old Dutch debts in the manner prescribed.

"Korido is uncertain," persisted the official, unheeding of my protest, "because some of the native children there, finding it was white and sweet, ate some arsenic intended for curing bird skins in the belief that it was sugar. Some white man will have to pay for that, of course, and you had best not run the chance of qualifying. But here is Sjari. Luckily there was no reprisal for the Chinese trader they killed there six months ago. Some of the army officers have been down there shooting and report all quiet. I see no reason, if you will travel light, why you shouldn't make the trip up to the Monswoon Lakes. Four or five soldiers and as many bearers will be ample, and I can get you several men who were in there with Pratt four years ago. If you really care to see a little of the interior, you may count on me for any help that I can give you."

It certainly looked good enough to try, and I had made up my mind to chance it before I went back to the steamer. There they were a unit in throwing cold water on the plan, the Mate facetiously wishing that I were Captain so he might be in line for some more rapid promotion. Some junior engineers whom I surprised throwing dice over their *aperitifs,* confessed they were shaking for my trunk and typewriter. Then came a note from the Resident saying that he was going to send the gunboat down the coast in the afternoon, and that it would drop me at Sjari if I still wanted to go. The chance seemed too good to pass up, and I sent word to "book me through to the Monswoon Lakes and back." I double underlined *"and back,"* for the return trip at that moment seemed so much the more important part of the journey. What luck if the conditions were such that I could boat all or part of the way back to the coast!

I left my friends on the ship pretending to make up a pool on the chance of my return, took a rubber blanket, a half dozen changes of duck and khaki, my camera, Corona and revolver, and went ashore. Here I found that the Resident had six Papuan porters, a corporal and four soldiers. The provisions—mostly rice—were divided into packs of about thirty-five pounds each. Nothing was lacking when the *Pelican* sailed at four in the afternoon.

Just before we were ready to start, the Resident, apparently as an afterthought, sent up to his house for a package of magazines. "In them you'll find some information of interest respecting the section you are planning to visit," he said.

I did. The magazines were part of a file of a well-known English monthly, containing an account of A. E. Pratt of his scientific researches in Dutch Papua. Here is one of the first paragraphs I chanced upon:

> The two lakes spread out below us, and through the clear air we could see the dreaded hostile village on the "male" lake, looking like a collection of toy wooden houses surrounded with fertile gardens and cleared spaces. The people of the place are so savage that they not only make continual war upon every house and village, but even fight amongst themselves, each household being in danger from its immediate neighbours. Some of the natives came over to our camp, and they were the most villainous-looking of all the wild people we had met. Curiously enough, there were quite a number of albinos amongst the men who visited us. We parted with these warlike natives with a feeling of pleasure unmingled with regret.

Of what use were my five laughing, singing, dancing little soldiers going to be against people like that? With a dozen

The author with three natives who were later killed by bush Papuans

wild-eyed, fuzzy-headed, sullen-faced blacks beginning to paw over my "trade" as though it already belonged to them, I stood on the beach of Sjari and watched that little white gunboat dip and steam away with that same sinking feeling a drowning man must have when he fails to grasp his straw.

"All over but the ambush and death-struggle," I told myself. "Even these fellows here look quite equal to the job; and if they aren't, the Lake people are, so it'll all be the same in the end."

Our path led through a heavily forested mountainous country all the way from the coast, with many quick drops and ascents and numerous streams to cross. The forest thinned as the elevation increased, and as we approached the lakes the hills grew more rounded and finally ran out into gently sloping, grass-covered plains. The grass, which was shoulder high, was cut here and there with the choked paths of the Lake natives—the likeliest place in the world for the expected ambuscade.

The few households of natives we had encountered on the way up through the coastal forest had all seemed well disposed and not especially surprised at our appearance, but as we came out into the opener country our approach seemed to send an electric shock of unrest ahead, and we found the natives shy and distrustful and not inclined to come near save under cover. Every now and then fuzzy heads, in rows or singly, would go bobbing along the tops of the grass, but they always disappeared when we hailed their owners and invited them to lay down their arms and come and make friends. Sometimes we would never sight them again, but frequently the dark mops would bob up again on the opposite side from which they had first appeared and go sliding along the nodding grass-pods as if they had been severed and were being carried in triumph as trophies. It was distinctly uncanny.

I noticed that the soldiers had stopped their rhythmic marching song and were peering anxiously among the grass roots for squirming black bodies. The Papuan porters had ceased to struggle and were crowding up close for safety. For myself, I must confess that I fancied a lurking black behind every bunch of grass.

We were extracting most of our comfort from the fact that the savages always seemed to make away directly they sighted us, but when we finally came upon two who stood their ground it began to look as though things were coming to a crisis. The corporal sighted the woolly heads moving about at the edge of a clump of brush which made a little island in the sea of grass, and shouted his usual command to lay down arms and come in. They did not bolt as the others had but, as we could plainly see from the agitated twigs, both of them slunk closer through the bush.

Things moved so swiftly for the next few moments that I have no distinct recollection of their sequence. The corporal forgot his Papuan lingo, and I clearly recall his shouting to the stalking blacks in Malay. "*Lekas!*—Get out quickly!" was what he said. Then the porters, dropping their packs, began to bolt down the trail, and it must have been at about this juncture that the rifles started popping off. The soldiers emptied their magazines with a rattling fusillade, fortunately concentrating their fire upon the slinking figures in the brush. With true story-book presence of mind, I saved my revolver for the grim hand-to-hand struggle which I foresaw the firing would precipitate.

The effect of the shooting was magical. On every side I caught glimpses of black heads springing up like so many Jacks-in-Boxes, as their owners, regardless of paths, clove their way through the tall grass, leaving gleaming wakes of nodding silver seed pods. There was a shrill screech of pain over in the brush, and, after the rattle of the firing had died down, the sound of a body thrashing in the dry leaves. I am not quite certain that the units of my little Javanese escort actually started down the back trail after the porters when the blacks commenced to spring up and scatter, but I recall clearly that it was not until after it was fully apparent that the enemy were in flight, not charging to attack, that the little yellow soldiers came forward, formed a "hollow square" around where I was hunched for my last stand and swore to die in my defense.

All was still now in the thicket ahead, but the corporal, explaining that the Papuan, like "Fuzzy-Wuzzy," was "generally shammin' when he's dead," led on his men with fixed bayonets. Slowly the inexorable circle closed in, grimly alert for the expected charge. The floundering crashed forth again, but the soldiers, with splendid self-control, held their nerves and their fire, a restraint, however, which I soon saw was due to their having obtained a good, clear look at the struggling object on the ground. It was a black porcupine, an animal which, climbing around in low brush, has a startling resemblance to the woolly mop of a belly-crawling Papuan.

The corporal explained that the reason they had failed to wing the second porcupine was because his men, according to manual, were shooting at the legs of the supposed Papuans so as not to wound them severely. This did not quite happen to account for their having hit the first one, but as his marksmanship is a sensitive point with the young Ambonian recruit I did not press the inquiry.

The incident was regrettable in that it made the savages so shy and suspicious that, except in a couple of the larger villages, they invariably either took to the bush on our approach or retreated to their houses and barred the doors. A liberal distribution of "trade" reassured them at the big village on the lower lake, and we managed to get them to entertain us with a bit of singing and dancing one evening. But for the most part our amenities were restricted to making friendly signs to groups of disappearing black backs and fuzzy heads. Securing a canoe and paddlers for a run by river back to the coast proved impossible.

* * *

Although there was no favorable opening for an extended river expedition to the interior during the remainder of my visit to Dutch New Guinea, I did contrive a number of interesting voyages in small native craft along the coast and up some of the larger estuaries. The bird of paradise hunters proved good companions, both on the beach and in the jungle, though it was one of these whose zeal for bright feathers—or was it bright eyes?—lured me to an adventure from which few of the original voyagers ever returned.

The bird of paradise plumage traffic—now, happily, practically brought to an end by international agreements—was entirely in the hands of Chinese and Arab traders at this time. They imported guns—mostly bored-out muskets of antique pattern—powder and shot. These were supplied to Papuans under an agreement that all the skins secured should be traded in at a stated rate. Cheap, low-power field glasses, to be used in searching the lofty trees for birds, were also furnished to some of the more trusted hunters.

The native set off in his canoe to the hunting ground which he believed to be the best, and, at the end of two or three months, according to his luck, returned with a basket of brown and golden-yellow skins. The latter were all cured and proofed against the numerous insect pests by the two or three simple chemical preparations given the hunter by the trader. The Papuan turned his hard-won skins into cotton prints, canned salmon and the cheap but deadly palm-tree toddy. Then he gave a big feast to his neighbors, and finally—if he was lucky enough to avoid being killed in the bouts with lethal weapons into which these functions invariably resolved—turned up at the trader's at the end of a week for a fresh supply of bird-killing gear.

A few days usually sufficed for the regular buyers from the outside world to secure all the skins which had been brought in to the coastal ports during the preceding six months, and most of them were able to return to Macassar or Singapore by the same steamer that brought them out. A small tin trunk would frequently contain from ten to twenty thousand guilders worth of the costly skins, and it was the customary practice for buyers to convey their purchases to their cabins and keep them closely under their eyes during all of the return voyage.

Each bird skin passed under the eye of the Dutch customs inspector before it left the beach, and the twenty-five per cent export duty—often amounting to twenty guilders a skin—had to be paid at the time. First-class skins were worth all the way from fifty to a hundred guilders at Manokuari, fifty per cent more at Ternate, and double their purchase price by the time they were delivered at Batavia or Singapore. What they cost the pampered beauty whose hat they adorned in Paris or New York largely depended upon the seasonal set of the tide of fashion. Rarely could it have been less than enough to feed a whole village of Papuan bird-hunters for a year or two.

Bird-buying Yusuf was a half-caste—the son of an Arab trader and one of his Moluccan lady-loves—probably a girl of Ternate or Ambon. Working in the interest of his canny father, he sailed a hulking native sloop out of Manokuari, carrying "trade" to bird-hunters working from various strategic points along the coast and bringing in the gay plumage as it was available, to await the coming of the buyers. On the suggestion of the Dutch Resident, I arranged to ship with Yusuf occasionally on the chance of more intimate glimpses of Papuan life along the coast, or for such short jaunts into the interior as turned out to be comparatively safe and practicable. Right up to its tragic finale this proved a pleasant and profitable plan for both of us.

The pile-built Papuan villages, as I came to know them at close range both as a visitor and a resident, proved a never-ending source of interest and enjoyment. I found the picturesque clusters of thatch as sweet and fresh when I strolled their shingle-paved lanes as they had looked when I first picked them up with my binoculars from ten miles to seaward. No one had taught them sanitation or cleanliness for the villages where the Dutch visited most rarely were, if anything, neater and fresher than the suburbs of Manokuari and Humboldt's Bay. Unlike so many primitive peoples, these coastal Papuans simply appear to dislike the presence of unnecessary filth.

Food and dress are the least of a Papuan's troubles. There is little specialization in production of any kind, and therefore very little barter. The gardens are located on the nearest favorable ground. This is usually right in the back yard, though, where irrigation is practiced, the area of cultivation may be several miles from a village. The ground is first roughly cleared, then burned off, and finally turned under. The staple crops are taro roots and yams. As it is usually easier to clear a new patch than to keep an old one weeded, a fresh piece is broken out each year.

Where gardens are irrigated much ingenuity is displayed in damming, dividing and distributing the water from terrace to terrace on the hillsides. Where a ravine is crossed the water is carried in an ingenious all-bamboo aqueduct. I use the term "all-bamboo" quite literally, for the framework and pipes and the lashings which bind them together are all made of that indispensable adjunct of tropical agriculture.

The main source of the Papuan fish supply is in the rivers. This is not because the finny tribe is necessarily more plentiful in the fresh-water streams, but rather because they are more easily caught. Many varieties are taken, but by far the best hauls are of the *pantiri*, a diminutive minnow much like the English whitebait, which runs heavily at certain seasons. The nets used are a sort of scoop, made of extremely fine mesh attached to a circular frame. On two occasions the obliging Yusuf ran out of his way and anchored overnight to allow me to observe a *pantiri* harvest in full swing.

The shout of *"Pantiri!"*, which announces that a shoal of the delectable minnows has been sighted headed into the river mouth, is a summons which no Papuan woman ever lingers to hear a second time. Releasing her house skirt with one hand, she seizes her scoop with the other, slides quickly down the notched tree trunk which forms her front steps and heads for the river. If there is time she grabs up an old fishing skirt and adjusts it as she goes; but this is a secondary consideration. From a score to a hundred fuzzy-headed figures are crowding along with her, chattering like a flock of cockatoos.

The first arrivals at the shoal, where the fresh water mingles with the salt, make right for the farther side before turning seaward and pushing their nets firmly down against the sandy bottom. Those following crowd in against those ahead, and so a line of nets is formed, reaching from bank to bank. Then the youngsters circle out over the reef and drive in the swarming *pantiri*. The fish strike the barrier in an almost solid mass. A scoop may be filled in a few seconds. The instant a woman finds she has all she can carry she staggers out with her catch and dumps it upon the bank. Meanwhile another line is thrown across the river farther upstream, so that the fish which escape the first are caught in the second.

If the run of *pantiri* is heavy several tons of fish may be taken inside of an hour. Such a success is always celebrated with a feast, but even with every man, woman and child in the village stuffed to the limit of his or her by no means inconsiderable capacity, only a slight impression is made upon the great piles of silver-bright minnows. For the rest, "preservation" must be resorted to. This consists of cooking as many as possible in more or less hermetic wrappings of *ti* and *taro* leaves. The fish which are left after wrappings run out are dumped into round holes, covered with seaweed and left to "pickle." What I wrote about the olfactory inoffensiveness of a Papuan village was not meant to apply to one where two or three tons of not too recently caught *pantiri* are in process of "preservation" upon the open river banks.

Yusuf had proved so careful from the first in heeding the warnings of the Dutch officials against penetrating inland at any point where there was a chance of trouble with the natives, that I received with elation rather than apprehension his announcement that he had decided to voyage for two or three days up a large river down Humboldt's Bay way. All I could gather from his jerky *beche-de-mer* jargon was that the Papuans of a village which had not been on good terms with the coastal natives for some time had sent down word that they had some "first-chop" skins to trade to anyone who would come and get them. They especially wanted some preservative chemicals and a few more bird-shooting muskets. He was not going to ask the Dutch for an escort. They probably would not give him one in any event, and even if he had soldiers they would interfere with his trading muskets. Moreover, the natives of this section had frequent contact with those from what was then German New Guinea, so it was not unlikely that some of their plumage had come across without paying duty. It was a profitable job, but one which had to be handled very much on the quiet. Such little visits as he had made in the past had yielded him returns far beyond any risk he had run. Also, the "Marys" were a *top-chop* lot of girls. Always plenty of singing, dancing and loving on tap for those who liked that kind of thing.

A gay blade this Yusuf, like all the rest of the Arab traders, with many gewgaws dear to the feminine heart to scatter with lavish hand. I had already observed with amusement bordering on jealousy the court that was paid him in every port. From landing to departure the swaggering fellow was always the heart of a periphery of fuzzy-headed pulchritude, and the dark fingers stroking his glistening coco-oiled beard in welcome were not always the same which probed his capacious pockets for guilders at sailing. I never did locate the cloud from which flashed the thunderbolt that laid him low, but I have always felt that its devastating swath was entered in the first place by that orchid-embowered trail commonly called "The Love Path."

Confident that Dutch officialdom knew enough of my movements to absolve me from participation in any trading irregularities which might be afoot, I plumped with pleasure for Yusuf's alluring plan. Anchoring in the protected mouth of the river to be ascended, we transferred the desired trade goods to a large native canoe and pushed off, leaving the sloop to stand by for our return. A couple of billowing mat sails drove us on smartly up the broad reaches influenced by the tide, the paddles being brought into play only as the current increased in speed and the encroaching jungle walls cut off the breeze from the sea.

The Papuans of the first villages we came to, annoyed at first as it became evident we were faring on upstream without stopping, were mollified when it was shouted they would be served from the sloop. Yusuf appeared on friendly terms all along, but, as the distance from the coast increased, fluently gestured warnings as to what would befall us if we ventured above the "Great Falls" became ominously disturbing—to the white passenger at least.

Yusuf managed to convey to me that what he had called the "Great Falls" was merely a rather rough and dangerous rapid which marked the beginning of the "high country," where the natives had little but hostile intercourse with those of the coastal jungles. It was so right round the coast of the whole island, he said; the Land people were always at war with the Water people. "All same Borneo," I assented, wondering when we were going to meet a toy ship with a cargo of rice-eating beetles.

On the second day, after fighting our way all morning up against a strong current where the river flowed through a rocky "No Man's Land" apparently devoid of human habitation or cultivation, we came to a boil of heavy surges and whirlpools formed in the "S-shaped" gorge below the "Great Falls." Here we would unload and walk around on foot, Yusuf explained. It would be a slow, hard carry with the trade goods, he added, unless help was sent down from the big village not far away above. He had observed men watching us at one point for certain, and, as they would undoubtedly have circled back and signaled to their headman, an official welcoming deputation might be expected at any moment. That would save all back-breaking labor, and mean a night of palm-toddy and singing and dancing, with much profitable trading on the morrow. Then a swift run back to the sea with our bird skins in a lightened canoe.

The relief expedition arrived before we had started unloading at the little hand-built jetty below the foot of the rapid. The headman was almost effusive in his greeting of Yusuf, but appeared a good deal surprised and a bit disturbed at finding a white man with the party. He was quite friendly to me, however, and readily agreed to my remaining in the canoe while his men lined it up the side of the rapid by a couple of lengths of tough *liana* or jungle creeper. Yusuf would not risk his precious "trade" in the boat, however, and made very much of a point of following close to the porters with conspicuously displayed Mauser pistol.

The canoe was lined up the eddies along the side of the foam-white rapid with first-rate skill and judgment, giving me full opportunity for a survey on the chance that Yusuf would be willing to run down on our return. The twenty feet of fall which I estimated occurred in five hundred yards made for very swift water, rendered the more dangerous by being broken at several points by outcropping rocks. If the paddlers would keep their heads enough to hold the craft bow on at the most restricted chute between two outreaching fangs of basalt, I reckoned the trick could be turned without serious risk of an upset. I had good cause to be grateful for the opportunity of that brief but comprehensive preview of how the water ran through at Yusuf's so-called "Great Falls." It was hardly dangerous water as I came to know rapids later, but still a place which even a skilled boatman would have had small chance of running successfully without a preliminary "look-see."

The craft of the local reception committee were moored at the head of the rapid, and the whole canoe-cade paddled on to the village landing through swift but not badly broken water. It was a good sized settlement of several hundred people, and Yusuf volunteered that many populous villages were to be found scattered along up the river for a number of miles. Fruit and coco-toddy were waiting for us and pigs and chickens were already roasting in delectably steaming pits. A roomy little thatch house had been prepared for Yusuf and another was ordered made ready for my occupancy. Our men were dispersed through the village. My establishment was being tidied up by a bevy of "home-town girls," while the only glimpse I had of Yusuf's bachelor quarters before dusk suggested the dormitory of a certain girls' missionary school. But there were no men of the white man's God to spoil a visitor's fun in this remote neck of the jungle, said Yusuf, adding a fervent "Allah be praised!"

Feasting and drinking were well under way before nightfall and the throbbing of drums and the glint of firelight on the oil-polished breasts and limbs of the dancers began with the shadows. Now and then the burgeoning of a gay glint of bird of paradise plumage told that sordid details of trade were being broached, but the lordly Yusuf always waved fuss and feathers disdainfully aside. Plainly he agreed with Byron's South Sea hero who declaimed:

"Tomorrow for the Moa we depart,
But not tonight; tonight is for the heart!"

Warned by the infallible twin-barometer of head and heels that the hour had come to cease pledging toasts in the insidious coco-toddy, I made weariness after the long day on the river pretense for breaking away from the festivities and retiring to my well-netted camp bed before midnight. Yusuf must have taken his more formal leave not long after, for presently I heard a sonorous bass voice chanting rhythmically in his thatched shack, with an obbligato of silvery laughter running through it like the rippling of a rill. Just before I dropped off to sleep the low insistent beat of a tom-tom, in ever-quickening tempo, penetrated to my consciousness, and I recalled drowsily something that Yusuf had said about liking to have his intervals of amorous dalliance punctuated by the pulse-accelerating throb of the drum.

The notes of that lilting Arab love song were the last sounds I was ever able definitely to identify as issuing from Yusuf's bearded lips. A series of ecstatic giggles must have come from one or another of the dusky beauties who fluttered with the bats past my door, and that chesty, explosive grunt, just as dawn was breaking, was winged by hate rather than affection. It was that savage outburst which shocked me wide awake, to hear the pit-a-pat of running feet and to roll from under my net in time to become sleepily aware of many dark figures scurrying away through the shadowed lanes of the village.

Assuming that nothing worse had happened than a squabble between some of our young Arab Lothario's harem and their boy-friends, I was about to return to bed when the corner of my half-opened eye seemed to note that one side of Yusuf's house was crushed in. Scuffling "Marys" would account even for a wrecked shack, I told myself but no harm would be done by a peep to see if there were any human casualties.

The half-light of the swiftly breaking tropic dawn revealed nothing but a lone figure sprawled across the sleeping mats. Not until I switched on my electric torch did I see the black pool of blood and the upright shaft of the spear which nailed the body to the earth. Those lines I had quoted to myself at the dance had been prophetic: "Tonight is for the heart!" That was just where that quivering shaft of ironwood had been driven.

Even after the nervously thumbed wrist had proved that there was no pulsing of lifeblood in the sprawling frame, it did not come home to my groping wits that anything more than a dark mate's or rival's jealousy was behind the swift tragedy. Only when my calls for help went unanswered and a few steps outside disclosed an empty village, did I begin to suspect that something more ominous—perhaps premeditated robbery and murder—had befallen. Possibly there was some old score against the bold but tricky trader, to the settlement of which he had been lured by the bait of bargains in bird skins. The answer to that I could only conjecture. Indeed, I am still in the dark about it to this day.

The empty village was positively ghostly in the breaking light. Not only had the regular inhabitants taken wing, but there was no sign of the dozen or more coast Papuans who had paddled our canoe. These had either got away in our boat or were being pursued in the jungle, I told myself. A few pigs and chickens scurried away as I scouted through the nearest lane, but the fact that there were no dogs around the houses seemed to indicate that the exodus had been planned in advance. There were no evidences of life even around the big central men's dormitories. The only sound that broke the uncanny silence was the singing of the rushing river on its bars, and presently this seemed to resolve itself into a message. Soon I found myself repeating words that had come back to mind many times since that day they were first spoken by old Swiftwater Bill at the foot of White Horse Rapids in the far Northland:

"Remember, kid, that rivers are your friends; they will take you where you want to go."

Since the natives, for some reason of their own, did not appear to want to kill me, or even drive me out to die in the jungle, perhaps they were leaving the river road open intentionally. If there was a boat at the landing, and I was not interfered with in pushing off, getting to the coastal zone of the friendly Papuans was only a matter of running the "Great Falls" right-side-up. If their account with Yusuf had been balanced by his life and the guns they had stolen, perhaps they might even be waiting to help me through the rapid. Hope springs perennial in the adolescent breast.

With my revolver already in its holster, it did not appear worth while to detour back by my sleeping shack for such impedimenta as mosquito net and camera. Not even a dog barked as I cut across a corner of the village, but there was a slight blur of movement among the several heavily laden canoes alongside the landing stage. Nothing like our empty craft being in sight, I took a running dive in among the pigs and bundles in the smallest of the others. As I landed a half dozen kneeling figures, which had been half obscured by the load, bolted over the sides with shrill squeals of terror. More interested in my own anatomy than in that of strangers at the moment, it was not until later than I recalled that the frightened fugitives, abandoning their all to the white pirate, had the outward seeming of Papuan "Marys."

Already cast off from its moorings, the canoe was carried right out into the current by the impetus from my diving body. A huge hewn paddle of a black wood which felt too heavy to float was ready to hand, and the scuppering of three or four pigs and baskets of chickens cleared me a seat at the stern. When a dozen hard-plied strokes brought me into the swiftest channel of undulant water, I leaned back and "conned ship." "Badly overloaded and a bit down by the head," I diagnosed, but felt that there would be time considerably to improve trim before we dipped into the head of the rapid. All this, of course, in the event there was no pursuit. And on that score it was heartening to observe that the flying "Marys" appeared to be yelping more in anguish than in anger, and that none of the two or three canoes already under way upstream made any move to turn back.

Vigorous jettisoning of some unlucky family's household goods and gods as we reeled down the rolling current brought several inches of increased freeboard and raised the hitherto depressed bow until it rode little lower than the stern. With no one in sight, either to help or to hinder, at the rapid, I stood up as we neared the foam-capped rocks at the head and renewed my mental chart of the course through. As I already had well in my mind, after my survey from the side as the canoe was lined up, the main set of current I was now in led directly into the "V" of the only chute a boat had any chance of following through the rapid. The crucial test would come in heading over an abrupt break between two outcropping ledges of basalt about half way down. Bow-first into this with a moderately well trimmed craft, and disaster should be avoided. Carried in beam-on, so that both ends would hang on the outcrops, a boat of steel would be crumpled like paper. I had realized that from the outset. Now for it!

It was an awkward job, with the huge overladen craft and the heavy paddle, but I did manage to keep the bluff bow swung far enough ahead so that, when it struck on the right-hand ledge of basalt, the blow was a glancing one and the stern had room to roll through without lodging against the rock on the left. We dipped a solid wave of green water over the starboard side there, and again from port when an unguessed ledge beat a sudden rat-a-tat along the bottom farther down. But it was still bow on that she shot down that last surging chute at the foot and began to wallow for life in the big whirlpool. There was more air than water in the boiling maelstrom, and so, little for the paddle to bite into. We must have played ring-around-the-roses for half an hour here, and when we finally slipped soddenly out into the black eddy below, the water in the canoe was over my knees and almost up to the gunwales.

With little chance now of pursuit by the river, and scant risk of an attack from the banks, I let the canoe float with the still strong current for a few miles while I recovered breath and nerve. Then I started getting rid of water and surplus cargo. A large cooking calabash of hollowed wood made a useful bailer, and the canoe floated higher as the accumulated wash from the rapids was thrown back into the river. Most of the remaining pigs and chickens were drowned, but what looked like some sort of a preserved fish snug in a net in the high stern, suggested itself as worth saving for the coastal Papuans, whom I expected to be meeting in the course of the day.

But when I started to shift this net-hung dainty to give me more room for paddling, it emitted a shrill squawk. Puzzled about a sound which I had already heard several times before without noticing especially in the rush of events, I investigated more intimately. And not till then did I learn why the fugitive "Marys" had yelped with anguish from the bank after they fled following my dive into their canoe. To my offense of piracy was to be added kidnapping. I had become the foster father of a year-old baby girl.

When an exhaustive search failed to reveal either a mother or a bottle of milk hiding under the thwarts, I did the best thing I could think of for my child in squeezing the pulp of bananas and the juice of sugar cane into her wailing mouth. I was engaged in this paternal duty when the first boatload of Water natives hove in sight and furnished me a wet-nurse and ultimately quick transport on down to Yusuf's sloop, and so to Humboldt's Bay. Here the Dutch mission, on my promise to send her a Christmas present every year thereafter, that she might be maintained in a way consistent with her early bringing up, took "River-Baby" off my hands.

The Resident at Humboldt's Bay, telling me that it had been known for a long time that Yusuf had been trafficking in arms with some of the natives of the interior, seemed to feel that he had got no more than his just deserts. He said that the reason my escape had apparently been connived at must have been because they felt that there would be strong punitive measures taken for the death of a white man, where little might be done in the case of a half-caste known to be engaged in an illicit trade. He promised to write me if there were any further developments in the case, but in the many forwardings my mail had during my transit of southwestern Asia, any word he ever sent may well have miscarried.

Bills for the schooling of my "River-Baby" continued to pursue me to many parts of the world for several years. During the War they ceased to find me, but I have always hoped that this was due to some shift in Mission personnel rather than to the passing of one of the gamest and most fascinating little nymphs with whom I ever ran rapids.

CHAPTER IX

"CHEATING CHEETAHS"

Did Old Guzra Lie to His Hunting Leopards About the Character of the River Water, or Was It the Maharajah's Guests Who Were Deceived?

THE long shadows of the pyramidal piles of the little Hindu temples were cutting purple triangles on the still faces of the lily tanks when Fowle and I, hot, stiff, sore and disgusted after a bootless drive for tigers in the Jammu jungles, dropped from the howdah of our kneeling elephant and started toward the gateway of the bungalow which the Maharajah had put at our disposal for the visit. "I don't believe there's a tiger in the whole state," ejaculated Fowle weariedly, kicking the kinks out of his cramped legs. "Don't believe there's even a panther. Don't believe—"

Just what else my distinguished companion had doubts about the existence of never transpired, for before the sentence was finished a tawny bolt shot over the garden wall, landed in the middle of the cleanly brushed road, and bounded again into the air, this time to come down with a glad "whouf" at Fowle's feet. Looking back from the top of a wall which I had gained at a single leap and scramble, I was just in time to see my friend, recoiling from the attack of a giant leopard which had reared with the apparent intention of seizing his throat, trip on the coping and go rolling down the stone steps of a lotus tank.

An instant later a tall Kashmiri, turbaned and in livery, dashed out of the garden gate, dragging another oversized leopard at the end of a leash. The first animal reared on its hind legs again, and not until then did I see that it, like the other, was hooded and muzzled and dangled the loose end of a leash at its neck; also that the rearing attack was nothing more than feline playfulness, the gambols of the overgrown kitten it really was.

Fowle, luckily, had managed to bring up on the last step at the brink of the tank, and now, bruised and bedraggled, came limping back into the road. Fortunately he was Irish and had a keen and inclusive sense of humor; otherwise he might have followed the almost universal practice of Anglo-Indians and proceeded to beat the innocent cause of the lively diversion, thus alienating at the outset an individual who was responsible for some of the best sport we enjoyed during a two months' jaunt in the Himalayas.

The animals were the Maharajah's favorite hunting cheetahs, explained the Kashmiri—whom we now saw to be very old, despite his keen eye and erect carriage—and were as harmless as Persian pussycats except when their blood was up after a kill. He had been taking them out for their evening airing, and the larger one had broken away in the garden. He had leaped the ten-foot wall in pure fun, and his subsequent actions had been actuated by nothing more than animal spirits. All of this, of course, in Hindustani, which my companion translated to me afterward.

Fowle was not long in recognizing the old Dogra as the most famous "cheetah-master" in the north of India. Even I, a comparative stranger in the country, had heard something of his marvelous work in animal taming, and especially the subduing of vicious tigers. It was only natural, therefore, that we should complain to him respecting the ill luck which had attended our hunt and ask for his advice.

Our visit to Jammu, the winter capital of Kashmir, which lies at the base of the Himalayan foothills on the edge of the Punjab plain, was the consequence of a promise made to us by that somewhat erratic potentate, the Maharajah—by whom we had been received in audience during the Delhi Durbar a few months previously—to give us some good hunting if we would pay a visit to that region later in the season. We were on our way to Kashmir and the upper Indus, but as the side trip to Jammu was the matter of but a few days we had decided to make it. On our arrival at Jammu, however, we had found the Maharajah absent on "affairs of state," and, although comfortable accommodations were put at our disposal, and a couple of elephants turned over to us, the facilities were not sufficient to make anything approaching a successful hunt possible. In the heart of the Himalayan forests one may hunt with a few native beaters, or, by shooting from a platform erected over a "bait," with practically no assistance at all: but in the jungle country hunting meant numerous elephants and hundreds of beaters, and these we had not been able to secure.

We had returned to Jammu, therefore, with the intention of taking train to Rawal Pindi, thence to start for Kashmir proper by the highway. The old cheetah-master, however, suggested a change of plans. It was true, he admitted, that no good sport could be offered around Jammu in the absence of the Maharajah, unless we were interested in going out with the cheetahs after bucks; but by sending our heavy baggage around to Srinagar by the Rawal Pindi route, and by going into the great valley by one of the pony or foot routes, for which he would furnish us a guide, we would pass through one of the best panther sections of India, and might even get a chance at a tiger. This we decided to do, and in the couple of days which were necessary to get pack coolies together, had a priceless opportunity for enjoying a morning with the famous old Guzra and his cheetahs.

The real sport of cheetah-hunting is, of course, reserved for the cheetah itself, with the "cheetah-master," who endeavors to control and direct the movements of that very capricious cat, coming in for the next best share of the fun. To the spectator it is a good deal of a gamble as to just what sport will be afforded, but in this respect our lucky star proved to be in the ascendant.

The formal cheetah hunt—which is sure to constitute a part of the entertainment provided by any one of a couple of dozen of the most prominent native chiefs of northern India for his distinguished guests—is, if anything, tamer and more tiresome than a state tiger hunt, with the latter's elaborate provisions for rounding up the torpid quarry and the still more careful provisions against anyone more important than the beaters being mauled. An informal cheetah hunt, however, where things are taken as they come, may prove a very entertaining experience. On such an occasion, as no Maharajah's reputation for hospitality is held to hang upon the number of slaughtered bucks laid out at the feet of the guest of honor in the official photographs, it is possible to give the quarry something like a sporting chance, the consequence being that the cheetah is seen far nearer the limit of its phenomenal stalking and sprinting powers than when the game, frightened and confused by a line of beaters, is driven under its supercilious nose.

It was such a hunt that Fowle and I were privileged to enjoy with old Guzra. There were no beaters, no elephants, no pomp and panoply of the conventional hunt. We simply went out at daybreak into the rolling half-open country to the west of Jammu, taking with us a brace of cheetahs in a bullock cart, and kept going until bucks were sighted. Then it became a matter of maneuvering—keeping always down the wind from them, of course—to some point to within the hundred-and-fifty- to two-hundred-yard limit beyond which the cheetah cannot see clearly—or at least can only with difficulty be induced to take an interest in—his prospective quarry.

To approach in this manner any of the several members of the deer family in a country which was promiscuously hunted would be very difficult if not impossible, but the section in which we worked was a portion of the Maharajah's preserve which, being especially suited to the cheetah, was closed to shooting. The bucks, therefore, while far from being tame, were much less wary and suspicious than those commonly hunted in the United Provinces or the Punjab.

For the first hour or two all of the bucks sighted bolted away at the approach of the creaking bullock cart, and I began to understand why the native prince, anxious to insure sport for his guests, always resorted to drives to bring the game into the cheetah's range of action. Then we began to climb a gentle rise, right into the teeth of the chill Himalayan wind, which carried alike the groaning of the cart wheels and our telltale scent straight behind us. Some message of import, too, it appeared to waft to our tawny hunters, for, half-way up the hill, from the blasé indolence of end-of-the-season débutantes, they suddenly were galvanized into an avid, eager interest. Their old master, appearing to know exactly what the expanded nostrils and quivering flanks portended, prepared for action by drawing close the hood of one of his charges and throwing back that of the other. Instantly the eagerness of the latter quickened until he was restrained from leaping out of the cart only by sharp tugs on his leash. The other, knowing from the lowered hood that he was not elected for immediate action, relapsed into an attitude of petulant disinterest.

A half dozen very much surprised and considerably disconcerted bucks stopped grazing and stared down at us in blank indecision as we began to top the rise, quickly to break into shrill whistling snorts of alarm, and, spinning to a quick right-about, go clattering off in showers of hoof-spurned gravel.

There was no chance, nor yet any occasion, for a stealthy stalk on the part of the selected cheetah. The bucks were hardly fifty yards away when the glaring yellow eyes first focused upon them, and old Guzra, for the sake of sport, let them swing around and get into full stride before slipping the restraining thong. Z-rrr! Whish! There was a gasping snarl of eagerness, the rip of claws on the cart floor, a glint of gold in the sunshine, and—a second or so later, when the action slowed down sufficiently to allow the human eye to follow it—the freed cheetah appeared riding the withers of the largest of the bucks and working desperately with jaw and claw to bring it down.

It was like a feat of legerdemain. Z-rrr! Whish! Presto! Change! And the magic was wrought through the medium of the superlative quality of fluent silk and steel in the four slender legs of the remarkable beast which was now riding the faltering buck to its death. It must indeed be true that no living thing without wings is capable of a speed approaching that of a charging cheetah.

At the end of fifty yards, teeth or claws—Guzra said it was usually a blow from a paw that killed—found their way to the spine of the unlucky buck, and, collapsing in full stride, it went down in a sprawling heap, the cheetah narrowly missing being impaled on the points of the sharp, tapering horns across which his inertia carried him in the fall. We found him tearing at the throat of his kill to open the way for the draft of blood which is the customary reward of the cheetah that has made a successful attack. As there was more work in prospect, however, Guzra hooded his indignantly protesting charge at once and dragged him, snarling and spitting spitefully, back to the cart.

Although we were to see incomparably more finished "cheetah work," this first kill was really the most spectacular feature of the morning's sport. It chanced to be the only occasion on which the attack was made direct from the cart, and, as the other dashes were made more or less at an angle to our line of vision and at a distance which made it impossible for the eye to follow the catapulting bolt of tawny energy all the way, the effect was less startling. Many of the approaches were miracles of stealth and cunning, but there was no more of the Z-rrr! Whish! sort of yellow magic.

The beasts proved marvels at stalking, dropping off the far side of the cart the instant their hoods were removed, and, utilizing as cover every bush and inequality of the ground, advancing to a vantage point favorable for the final rush. More often than not, especially when the stalk had been a patient one, the victim would be taken entirely by surprise, occasionally not getting under way until the enemy was on its back. On very rare occasions, Guzra told us, a buck, when taken by surprise, would receive a charge with lowered horns, in which event a more or less badly punctured cheetah was not infrequently the consequence.

I have said that we saw nothing as spectacular as the blinding speed of the first attack, but for the end of the morning's sport there was reserved another kind of magic that seemed to me incomparably more remarkable. The "Old Master" told, or appeared to tell, one of the cheetahs how to approach some bucks that were beyond its range of vision, and succeeded in making that animal undertake what finally proved a successful stalk. And then, as a wonder's crown of wonders, he told—or claimed that he told—his other cat a deliberate lie; that it was not really wet water which it thought it saw in the river below, but only the false water of the hot-air mirage. But I will not anticipate.

Coming to a broad nullah or ravine gouged out of an alluvial "fan" by a few eons of monsoon rains, Guzra's sharp eyes detected the movement of grazing bucks beyond the opposite rim, at a distance of between three hundred and four hundred yards. To take the cart across within a mile or more in either direction was a physical impossibility, and Fowle, who thought he had some knowledge of the limits of cheetah action, said it would be equally out of the question to send one of the animals to the attack from where we were. To old Guzra, however, the opportunity to show his guests something out of the ordinary seemed to act as a stimulant, and he evinced for the first time more than a perfunctory interest in the work in hand. Throwing back the hood of the larger and the swifter of the two spotted cats, he turned the animal's head so that it faced across the nullah in the direction of the slowly shifting black spots on the opposite slope. No answering quiver told that the round golden eyes had fixed themselves upon the grazing bucks.

"What can the old chap be driving at?" mused Fowle in

English. "Surely he can't expect to go into action at this distance."

Guzra, evidently catching the import of the remarks, replied in Hindustani:

"He cannot see, it is true, O Captain Sahib; but I shall now tell him whence he must proceed to be able to see. Will the Sahibs have the kindness to remain very quiet for a few moments?"

Pushing back the hood well away from the animal's ears, he took the smooth, round head in both his brown hands and turned the scowling but intelligent face to his own. His deep-set beady eyes grew fixed with concentration, and the wrinkles of his seamed old face straightened out into firm lines of intense purposefulness. The big vitreously gleaming golden eyes shifted uneasily away from the narrow beady ones twice or thrice and then returned to a submissive stare, the sullenly back-laid ears at the same time pricking forward in awakening expectancy.

Then, for perhaps a minute or two—lost in wonder at the uncanny strangeness of the spectacle, I took no account of time—Guzra spoke to the grim head which grinned back at his own, spoke with clucks, grunts and chirrups such as man has never used to man since the days of the Troglodytes. Presently he removed his twisted hands from the beast's jowls to employ them in gesture, but the golden orbs, held fast in the mastery of the boring black ones, never wavered in their half-awed, half-querulous but wholly submissive stare. The gestures consisted of repeated finger-stabs in the direction of the grazing bucks, interspersed with full-arm sweeps evidently intended to indicate an avenue of approach across the nullah.

Suddenly the chirping chuckle ceased, and with quick movements Guzra snatched off the loosened hood of the cheetah, slipped its leash and pushed it roughly from the cart to the ground. Here the beast wavered undecidedly, cringing somewhat after the manner of a whipped dog and lifting half-

Cheetahs and their trainers

puzzled eyes to assure itself of the command in those of its master.

"*Jow!* (Get out!)" roared Guzra impatiently, and then, as the beast slunk uncertainly away from the cart, he relapsed again into fluent chirps and clucks, an explosively pronounced command sounding something like *"hjarr!"* recurring most frequently. Presently the confused beast paused, sniffed once or twice in a tentative way with lifted nose, and then, all in an instant, became one single bundle of single-mindedness. Down it dropped until the soft cream-golden fur of its belly swept the ground, and, seeming suddenly to have shrunk to half its original size, disappeared over the rim of the nullah.

Guzra sank back on his lean haunches with the sigh of a man relaxing after strenuous physical exertion, but his beady eyes never shifted for an instant from a spot near the dry torrent-scarred bottom of the ravine where the cheetah would have to cross to gain the farther side. A minute of tense silence passed, and then the quick pressure of a hand on my knee signaled, I took it, that the big cat was sighted. As far as I myself had been able to see, however, not a shadow had flashed across the open, and only the fact that the far-thrown focus of Guzra's eyes was traveling up the opposite slope indicated that the stalk was in progress.

I have not mentioned the fact that Guzra's impatient exclamation, when the cheetah appeared to have failed to understand his "directions," had not passed unnoticed by the bucks on the opposite bank. Although they were dead to windward of us, an increasing restlessness among the animals was noticeable from the moment the stalk commenced. Every now and then a head would lift and peer suspiciously across in our direction, and shortly it became apparent that they were working back over a slight rise a couple of hundred yards from the rim. By the time the "Old Master's" eyes were directed straight across on a level, indicating that they had followed the cheetah all the way up the other slope, the last of the dark patches had drifted beyond our range of vision.

"Guzra says it crossed the bottom on that streak of yellow ledge that's so near the color of its own hide," muttered Fowle, lowering his binoculars. "That's probably the reason we didn't see it. But watch for it now, he says, across that strip of dry grass beyond the rim."

Barely guessed through my glasses, I had just made out a swift rufous blur against the gray-brown background, when the old Kashmiri, shouting something to Fowle, jumped up and dived into the nullah.

Carrying more years on his thin shoulders than the combined ages of both of us, Guzra's sinewy legs were still good enough to bring him first into the orbit of action. Swiftly as he scrambled, however, he did not arrive in time to stop a contentedly purring yellow cat from sucking the last of the warm lifeblood from the throat of the big buck of which he had made so nearly a lone-paw stalk and kill.

It must have been our outspoken admiration of the cleverness of this incomparable feat of "cheetah-mastery" that tempted old Guzra to attempt the seeming impossible in a grande finale of the morning's work-out of his marvelous felines. Turning back toward Jammu we sighted another fine herd of bucks, this time on the farther bank of a gorge coursed by a torrential river.

"That's one bunch he can't put the cats into," observed Fowle with a laugh. "There's no working a cheetah through water, even if it could be made to clamber across these rocky cliffs."

Again the old "Cat-Master" caught the meaning, and once more he halted the bullock cart. A sardonic grin wrinkled his whiskered face as he begged in close-clipped Hindustani:

"If the Sahibs will again oblige with silence, perchance they will behold that which few Sahibs have ever been given to see."

The larger cheetah being disinclined to further work after his blood-draft, it was the other which was unhooded and given "action orders." These were transmitted as before, but with the addition of pantomime which included pointing at the glaring disc of the sun and fluent gestures of the arm toward the place where the undulant waves of hot air danced upon the plain. Gradually confusion gave place to understanding in the golden orbs, resentment to submission and eagerness. The stalk down the shattered black cliff was started with scarcely a pause of hesitation once the leash was slipped.

"He'll go down to the river and then stop," said Fowle, still unconvinced. "No hope that he'll cross the stream, even if he can make it on the rocks without wetting his feet."

Guzra's whiskers bristled in a broad grin as he burst into voluble elucidation of something important, and my companion was on the verge of laughing as he translated.

"It's evidently 'Cheating-Cheetah-Day' in Jammu," he said, grinning. "Old Guzra says he told his cat that that isn't real water in the river, that it's only hot-air water, like the lakes of the mirage. Just the same, I'll lay you a case of 'Black and White' that he won't try to wade it. Hot air and cold water won't mix, even in a cheetah's imagination."

The big cat rose from its slinking crouch at the water's edge and looked back at its master as though for reassurance. But Guzra's imperious "onward and upward" gesture was all that was needed. Three flat, dry outcropping ledges gave solid landing for the first confidant leaps, but the foam-splashed rock in the middle of the main chute was precarious footing. Chasing his tail kept balance for an instant, and then the clawing talons lost their hold. He dipped in over his head at the first plunge, but even that did not confuse the fixed needle of his direction. Strong purposeful lunges carried the sleek swimmer to a ledge from which there was a firm take-off, and from there it was only the matter of a couple of long bounding leaps to the bank.

The hunter's sense of direction was addled a bit in the savage shaking necessary to remove the water from his spotted coat, but the hot breeze pouring down from the rim must have wafted something of the delectable odor of black buck or bruised grass, and the swift ascent, so different in its impetuosity from the silent slinking stalks we had seen earlier in the day, was its own undoing. The quarry started shifting at the first sound of clawed gravel, and by the time the hurtling Yellow Peril had reached the rim they were in full flight.

Just what happened beyond the rise we never knew exactly. The chances are that the cat, badly winded from his swim and climb, had given up after a short dash. At any rate when, scratched and blown after crossing on the ruins of an old stone bridge below, we gained the field of action, it was to find only a superlatively sulky cheetah and no sign of bucks within sweep of our glasses.

Although even Fowle lacked the Hindustani to translate the apt expression into fluent idiom for old Guzra's benefit, it was indeed a day for "Cheating Cheetahs."

* * *

The hunting along the "Back Door" route to Kashmir proved all that the old Dogra had claimed for it. It was customary to start on this road from Gujrat, on the main line of the Northwestern Railway. By making a couple of days' march across country to Nowshera, we were able to save retracing our steps and, what was more important, get the benefit of the old cheetah-master's help in rounding up a good lot of hill coolies. The Pir Panjal route is practicable most of the year for ponies; but, as we were venturing in very early in the spring, coolies were considered preferable in case the road was badly torn up by slides.

We did not have time to set bait and watch over it at night—the simplest and most efficacious method for independent hunters. Our hunts usually consisted of spirited drives of three or four hours at the end of each short day's march. The villagers were always ready to turn out on occasions of this kind, for two or three *annas*—four to six cents—apiece. Unless there was some particular place where they had a panther located, the usual procedure was to have a line of from twenty to forty of them beat down wind to us through a nullah or along a narrow river valley.

These drives would nearly always bring down black bucks, nilgaus, antelopes, chikaras and wild boars; but, save when we were in need of meat, we allowed these to pass unmolested. The panthers, if they had not succeeded in slipping stealthily back through the line of beaters, would come slinking along, dodging from bush to bush, well after the first flight of frightened deer and pigs had passed and often only just ahead of the yelling natives. Indeed, the latter were the ones who took the real chances in these hunts, for it is very rarely that a well-placed bullet will fail to stop the charge of a mad leopard.

A word here respecting the terms "leopard" and "panther" as used in India. In many accounts of jungle hunting one finds them referred to as distinct species of the cat family. The larger of the so-called species is referred to as leopard, and it is claimed to differ from the other in having a brighter color, with a smooth coat and an elongated skull with a pronounced occipital ridge. The smaller animal, called panther, has a paler color, it is averred, a rough coat, a round skull and no occipital ridge.

Fowle, who had made an exhaustive study of the subject, held that the panther is simply a younger member of the leopard family, and that with age it gradually takes on all the differentiating characteristics of the latter. As he took occasion to enlarge on his theory over the body of every one of the dozen or more of the big cats which fell to our rifles during this stage of the journey, I had ample opportunity to master the intricacies of his argument.

The resourcefulness which these sturdy hillmen sometimes show in saving themselves from attack was well illustrated on our afternoon hunt at Thanni Mandi. The beat moved along the hillside and put up a strapping black and yellow beast, which came trotting directly down at Fowle, who was seated on a big boulder. It broke sharply back at a gallop as he stiffened up to fire, and only one of his two quick shots took effect.

The wound was the merest scratch, but it seemed to have made the big cat very angry and reckless of consequences. Straight back at the wavering line of beaters it charged and then, disdaining to take advantage of the gap they opened up to let it through, sprang upon and bore down a grizzled old hillman who had been beating a sheep's hide drum. His companions scattered like chaff.

Neither Fowle nor I dared shoot at once for fear of hitting the old chap himself. The panther, which was an unusually large one, had ample time fatally to maul the native before either of us could maneuver into a position for a safe shot, and this it appeared was what was about to happen. To our surprise and relief, however, we beheld, as we closed in, not a mangled, lifeless body between the cruel jaws and paws of the snarling cat, but rather a very cool and deliberate old fox of a hillman, who was calmly "feeding" the folds of his loin cloth into the mouth of his adversary.

Fowle crumpled the animal with an almost point-blank shot through the spine. We dragged it off to find the plucky beater considerably scratched but hardly nibbled by the terrible teeth. It was quite the coolest thing of the kind I ever saw, but hardly as extemporaneous as it looked.

The "first rule," it appears, on being attacked by a leopard is to provide it with something to chew in order to divert its attention from one's own anatomy. The butt of a gun, a revolver, a stick or a sun helmet is the usual prescription. Since the unlucky beater had none of these things, and since his drum and drumsticks had been knocked from his hands, he offered up his loin cloth, the only article he had left not of flesh and blood.

At one of the villages—Aliabad Sarai—we had the honor and satisfaction of delivering the neighborhood from an especially vicious leopard which had been decimating the flocks and even attacking the villagers themselves. This incident was interesting in that it marked the passing of an animal which was becoming one of those terrors of the Himalayan village—a man-eating leopard.

The beast in question had been preying upon the goat flocks of the village for some months, and appeared to be just reaching that stage where it was beginning to kill in pure wantonness rather than for food alone. One day a herder, wrapped in a brown rizal or blanket, fell asleep in the midst of his flock. Taking advantage of his opportunity, the leopard charged into the flock and, evidently mistaking the hairy brown bundle for one of the goats, seized the man by the legs and dragged him into the bushes. Here he was found by friends who had rushed to his assistance, with just enough life left to be able to tell them how the thing had happened.

The animal continued to kill goats in increasing numbers after that. Finally, about a week previous to our arrival, it attacked and badly mauled a woman who had gone to the stream after water. Upon this the villagers, armed with spears, clubs and a single old blunderbuss, organized a hunt. They cornered the beast in a dense thicket and succeeded in inflicting a wound upon it.

Believing that because he heard no movements the creature was dead, one of the more courageous of them crawled in to investigate. No sooner had he disappeared from sight than a great commotion arose in the heart of the thicket, and then and there, within hearing but out of sight of the horde of yelling and drumming villagers, the venturesome hillman was chewed and clawed to death by the leopard. Finishing its gruesome work, the killer charged out through the ring of natives, bowling a couple of them over as he passed, and made his escape, apparently little the worse for the slugs from the old jezail which had been discharged at close range into its already well-scarred hide.

News travels quickly in the wilds of the frontier, and for several days before our arrival at Aliabad Sarai word had been coming to us of the progress of events in the terrorized village. Word had also gone to the village of the presence of sahibs on shikar, and it was at Baramgalla, in the picturesque Ratann Pir hills, that a delegation came to us praying that we hasten to the relief of the panic-stricken hillmen.

Accordingly we started early and traveled late the following day, making two stages in one and arriving in Aliabad Sarai in time to make a preliminary survey of the ground before dark. In spite of the presence of a herdsmen, the leopard had charged into another goat flock that day, killed several of the animals and carried one away. The villagers claimed to have him approximately located on a brush-covered hillside a half hour distant, and this we made arrangements to beat the following morning.

At daybreak one of the villagers who had been set to watch the thicket came in to report that he had discovered the leopard lying asleep, and had hastened to warn us that we might go and shoot the miscreant before it awoke. Gulping a hasty breakfast, we marched gingerly off to the place indicated, only to find that the hillman, whose imagination was overly active through the fact that he had been badly mauled by another leopard a few weeks previously, had mistaken the shadow-mottled leaves on the ground for the yellow and black spots of the village terror.

A little farther along, however, one of the natives picked up a panther trail and assured us that the object of our search was near at hand. Fowle, noting the lightness of cover at this point, inclined to the opinion that the beast was hidden in the dense thicket higher up the hill, and gave orders for the beaters to deploy above while we waited below to intercept the fugitive.

Half way down the hill two natives, who were in the act of passing a small but thick clump of bush, broke into a run, and Fowle, who was a hundred yards above, shouted some direction or warning which I could not understand. I stepped close to the thicket and peered in; but, although the unmistakable panther odor indicated the imminent presence of such an animal, I was unable to make out anything suggesting its outline. Gathering from my companion's gestures rather than his words that he was trying to tell me to get away, I started—by no means leisurely—down the hill.

At the same instant the panther broke cover on the opposite side of the thicket and went bounding toward the summit of the ridge. It looked an easy shot, and, forgetting that the first rule of panther hunting is "Never fire at an animal above you," I let drive with a half-aimed snap. Luckly it missed, and Fowle's frantic roars of protest prevented my trying to plant another bullet which would have been rather more likely than not to send a wounded leopard rolling down on top of me.

Fowle, considerately, also held his fire, as a result of which the beast gained the top of the ridge and found temporary safety in the dense cover of a nullah which opened up beyond. After two hours of beating had failed to bring it out, we returned to camp for breakfast, a rest and more men.

We found some difficulty in getting out all the beaters needed for the afternoon hunt because of a rather deeply rooted belief that, in case of the failure of the chase, the leopard would ultimately take its revenge, piecemeal, upon all who had been engaged in it. Fowle's tact and a sensible old village headman managed to overcome this feeling sufficiently to give us two score men, however. With these we moved again on the nullah where the leopard had taken refuge.

Here we had again an interesting example of native reasoning. The animal had shown itself once or twice. While we were endeavoring to locate it for a shot we noticed that the several men accompanying us, instead of observing the strict silence which is the rule for such occasions, were talking even more vociferously than usual. On Fowle's telling them to

"Choop rou! Bom mut maro!" ("Shut up! Don't shout!") they replied that they were talking noisily on purpose; that, while silent stalking was all right for an ordinary leopard, this one, because he had eaten of man and knew his ways, would believe that we were stealing upon him in case he heard no sound. Therefore they talked loudly and carelessly to make the killer think they were not in search of him.

Whether or not these subtle methods had anything to do with the final outcome I cannot say. In any event, our long-hunted quarry strode nonchalantly into the open presently, and Fowle's raking shoulder shot brought down one of the largest leopards ever killed in India.

CHAPTER X

POLO AND POLYANDRY

The Run-off of the Roof of the World Carries Me to Where They Follow the Bounding Willow Root Ball and Practice Plurality of Husbands.

AT something over fifteen thousand feet above sea level, that was the most altitudinous stream I ever attempted to navigate, but the rewards for the venture were proportionately high. For that day I made my bowing acquaintance with both Himalayan polo and Ladakhi polyandry, each a pioneer institution of its kind. By *maidan,* peak-perched village and nullah, my further education in both was carried on during the many memorable weeks of my jaunts about "Little Tibet."

When I asked my rotund little Tibetan girl guide if it would not be possible to reach the vicinity of Leh by following a rocky path that wound off along a torrential little mountain torrent which I sensed must flow to the Sind, she had replied that it could be done only by using inflated sheepskins to make us safe in case we were carried off our feet at one of the many fords These she had borrowed, and, after she had given me primitive instructions in the technique of using them, we had set out.

At the first two or three crossings the old Alaskan mushers' trick of using a stout pole on the upstream side had taken me safely over without losing footing. But when I did finally have to resort to the buoyant bag to keep from being drawn down among the bumping boulders, I found my involuntary ride so exhilarating that I was loath to cut it short by attempting a landing. With "Fat Cheeks" bounding along on the trail and bellowing warnings of some masked menace below, as I fancied, I had been carried around several sharp bends and was pawing hard to avoid being carried into the intake of a millrace when a pandemonium from the right bank came to my ears above the imminent roar of the rapids.

"Maniacs playing football on horseback," I diagnosed as a milling mob came swarming to the brink of a low cliff overhanging the right bank a hundred yards ahead. Even as I was swung in along the beetling barrier, one of the loping lunatics was crowded over the edge and came up floundering close alongside me. Unmistakable proof of his dangerous state of insanity was instantly furnished by the fact that, instead of tailing on behind his strongly swimming pony to the bar on the opposite side, he gave a glad whouf of ghoulish glee, snatched the inflated buoy from my slippery hands and headed back to join his maniacal mates. The current was against him but, lunging on like the madman he was, he gained the rocky talus of the cliff and was climbing out even before I reached the bar on the tail of the swimming pony.

As the fighting of the maniac mob resumed over-river, "Fat Cheeks" came puffing along by land and almost throttled me in her ecstatic embraces. These were not, as I had at first assumed, because of my safe escape from the clutches of the icy torrent, but rather because we had arrived at the cliff-hung metropolis on the farther slope in time for the finish of an important match of *pulu,* and would undoubtedly be invited to stay on for a wedding which was to be celebrated that evening. A wealthy Ladakhi heiress of many sheep, who had hitherto contented herself with a single *makpo,* was finally to take to herself three brothers in the holy bonds of lamaistic matrimony, to have and to hold—until she got tired of them.

At least that was the nearest I could come to making out what "Fat Cheeks" tried to tell me in her explosive Hindustani-English during the hectic interval while I drained water out of boots and breeches and prepared to ford with her sheepskin buoy in time to be in at the death in the lunatic-fringe struggle on the opposite bank. Since I had at last come to the primal fount of *pulu*—polo as played among its native peaks—

A polo field in the Himalayas

no time must be lost in getting into the fray, or as nearly into it as a stranger might.

As I clambered out to the rocky *maidan* the game was temporarily halted while a delegation came along and offered me a pony to ride for the "home town" in this climactic game of a crucial series. This was luck indeed, and I was about to explain that my training fitted me to perform rather more creditably at "back" than as a "forward," when all twenty-three players of the visiting team charged along in a galloping wedge to register a protest against bringing in a crack outsider to turn the tide the locals were unable to stem on their own. The dozen or so officials were divided according to their respective sympathies and affiliations, but sensing what would happen to the bone of contention in a fight in which some fifty maniacs were struggling for mastery, I deemed discretion overwhelmingly more important than valor. A leg claimed to have been wrenched in my rough river ride was the opening wedge of escape, well driven home by the fact that the diminutive Himalayan pony I had mounted had sprawled in a helpless heap under my hulking "fourteen stone" of weight.

I was escorted to a seat of honor in the granite grandstand as the unhorsed maniac who had filched my swimming buoy in mid-river came galloping back into the game with a fresh mount. This hairy little Tibetan nag, evidently a crack pony held in reserve against an emergency, was the instant object of the visiting team's attention. "Riding off," apparently, did not involve merely putting a rider out of a play, as in the effete polo of the Western World, but rather was directed toward his more or less complete obliteration. Both mount and man were left lying among the rocks when that concentrated attack swept over them, and the pony was apparently out of the game for good—at least so far as the present contest was concerned. But not so that piratical life-buoy-snatching rider.

Unhorsed in the obliterative scrimmage, the scrappy fellow

—still dripping from his recent immersion—was laid out on the ground with a twisted knee. The ruck of the pack swept on unheeding, and even among the spectators I seemed to be the only one who took his eyes off the play long enough to note the movements of the rumpled figure left in the wake of the surging mass. Twice or thrice he tried to rise and drag to its feet the stunned pony, whose reins he had pluckily retained in his fall, but both times the injured knee bent sideways and let him down. Throwing aside the rein-thongs in disgust, he pulled himself up on an elbow and began closely to follow the ebb and flow of the play from the ground. Two or three times as the tangled bob clattered by I saw him lurch forward eagerly, but it was not until one of the forwards of the opposing team, running free with a clean run of the ball down the field, came charging almost across his prostrate form that he made a decisive move. Lunging sharply ahead, he thrust his short stubby mallet between the forelegs of the galloping pony, and an instant later two limp figures instead of one were lying in the middle of the stone-littered *maidan.*

The fringes of squatting onlookers, who up to this moment had confined their applause to chesty grunts of approval, broke into a wild yell of delight and approbation as the second rider bit the pebbles, and I noticed that a group of Tibetan grooms standing near me were roaring with merriment at the comments of one of their number.

"What is he saying, Gunga?" I asked a whiskered Punjabi policeman, who was betraying in an unwonted grin evidence of being amused himself.

"He say, Sahib," was the grave reply, "that Mulik play the better polo from the earth than from the pony—that it is a waste of money to buy him mounts."

The game was as free from restrictions as the proverbial love and war—literally, all was fair. To shoulder an opponent and send him raking along a jagged wall of rock was considered creditable and clever, but the acme of finesse in riding off was to force him over the bank into the tumbling river. "Hooking across" for an opponent's mallet was rated good polo, but not nearly so much so as hooking the man himself off the precarious pad of sheepskin which served him as a saddle by catching him under the chin from behind. Blows were often dealt with the stout sticks, but not quite indiscriminately. One player would belabor another to make him miss the ball or cause him to give ground in riding off, but otherwise he would not waste the effort. An action that would enhance the chance of making a goal was its own excuse. The play was the most striking example of singleness of purpose I had ever encountered in my experience of outdoor sport.

Once again in the desperately fought final *chukkur* was the river invaded. This time it was not a single player who was forced in, but a full half dozen who deliberately braved the torrential current for the slight advantage incident to an unobstructed "pass" to their team mates on a low section of the bank. Just as the spheroid of hewn willow root was bobbing out of reach, the foremost rider, lunging wildly, swept the crook of his stick under the buoyant chunk and sent it flying back to the *maidan*.

The long reach and the floundering pony upset the plucky fellow's balance, however, and he toppled into the roaring waters and was carried away in an instant by the same chute in which I had made my informal entrance. Not for a moment did the game halt. Not a player gave the unlucky wight a glance, and by the time the strongest lunging and paddling had just enabled him to grasp a jutting log in the wreck of an old wooden cantilever bridge on the opposite shore, the center of the conflict was raging in a cloud of flying turf and pebbles in front of the opposing team's goal.

Did he give a thought to the fact that the wind, drawing down from the ice caps of the Pamirs with the sting of a whiplash in every gust, was stiffening the folds of his felt jacket and woolen breeches? Apparently not. Wallowing up to a little terrace of cultivation where a couple of his fellow villagers toiled in a precariously poised barley patch, he seized one of their goatskin swimming bags, kicked his way across the stream behind it, and was on a spare pony and back in the game in time to make a hairbreadth "save" as the shifting tide of the game put the goal of his own team in danger.

This stubbornly fought game closed in a tie at dusk. The decision was made to allow the final result to be reached in a single *chukkur* which should be played at dawn before the guests from the night's wedding ceremony would disperse to their homes. A messenger with horses, bringing word that I was expected to dine with the Commissioner at eight and should therefore hasten back to Leh, made it impossible for me to accept warm invitations to both village events, but my experience of both Himalayan polo and polyandry was only slightly deferred.

* * *

The Himalayan foothills were not the actual birthplace of polo, as is frequently erroneously stated, but they may truthfully be said to be the only region in the world of today in which the ancient game survives in something like its primitive form.

The antiquity of polo is much more definitely established than the actual country of its origin. As far back as the sixth century B. C. the praises of a mounted "ball game called chaugan" was sung by the Persian poets, and Omar Khayyam's

> The ball no question makes of ayes and noes,
> But here and there, as strikes the players, goes.

indicates that something of the kind was played in that ancient empire at the time of the old astronomer-poet of Nishapur. Persia's claim to having been the birthplace of polo, however, is disputed by the Chinese, who point out that one of their philosophers, writing a thousand years before the time of Christ, compared the ups and downs of life to the ebb and flow of the tide of the "horse-and-ball game."

An attempt to "back track" the path of polo from the frontier of India—the country from which it reached the Western world by way of England—gives no indication as to which of the rival claimants is the legitimate one. The Mohammedans—probably the hordes of Genghis Khan and Tamarlane—brought the game from somewhere to Tartary, whence it found its way to India by one or both of two routes —through Afghanistan and the Khyber Pass, and (or) across the Roof of the World and Kashmir. The tracks on the former trail have disappeared, but along the latter—village by village, valley by valley, as I saw myself—the footsteps of polo may be traced from the Vale of Kashmir to Gilgit and Hunza-Nagar, over the Hindu Kush or Karakoram, and down to the plains of Yarkand and Kashgar, where they are lost in the desert. The secret of its birthplace is lost in the shifting sands that have piled above the cradle of the Aryan race.

The nearest thing to polo that one encounters in Central Asia today is a game of the Khirghiz, in which each of the mounted sides endeavors to carry the body of a calf to the opposite end of the field. No balls or sticks are used, but the contest resolves itself into an equine rough-and-tumble which requires no end of dare-devil horsemanship, and is almost as hard on the mounts as on the fiercely-striven-for anatomy of the calf. Across the Pamirs to the south, however, the game begins to take shape, and I had no difficulty in recognizing the progenitor of modern polo in the fierce mounted contests of the hillmen. Wherever there is room between the soaring slide-scarred mountain walls and the foam-white glacial torrents that tumble through the narrow valleys, each little community of stone huts has its *maidan* or village green upon which the *pulu* games are played, usually rough informal bouts between the villagers themselves.

These mountain *maidans* are often cut up by streams and always littered with rocks and broken by jagged outcrops of native granite, all mere trifles, however, to riders and ponies who have spent their strenuous lives upon the serrier roof poles of the Roof of the World. Untrammeled by off-side rules, unmenaced by threats of penalties for fouls, undismayed by sticks in the air, rocks of the earth or waters under the earth, the Himalayan polo player is free to concentrate heart and head and body upon banging the battered chunk of willow or bamboo root between the two little cairns of razor-edged slate slabs that serve him as goal posts.

So keen is the hillman for his *pulu*—the word is from the Tibetan, by the way, and means a willow ball—that he thinks no more of foregoing it for lack of a field than does the street urchin his baseball for lack of a sand lot. If topographical exigencies forbid a *maidan,* he plays in the village bazaar or up and down the solitary street. These are the wildest exhibitions of all.

"What in the name of common sense did you bring those old polo balls along for," I asked the young British officer of an Indian regiment who had accompanied me on *shikar* in Kashmir. We had followed up the Sind from Srinagar, crossed the lofty Zoji La, and were in camp at Leh, the capital of Ladakh.

"For your especial amusement," was the reply. "Tossing a ball into a Ladakh bazaar beats throwing coins to famine sufferers for excitement. Come on down and see for yourself."

Tibetan, Ladakhi, Kashmiri and Nepali shouldered Pathan, Khirgiz and Dogra, and the gossip of half a continent buzzed in Leh bazaar as, pushing between ponies and yaks, goats and sheep, Burton and I picked our way to breathing room in the center of the little square. Shouting something in his fluent Hindustani, my companion held the battered ball aloft for a moment and then tossed it upon the cobbles among the vendors of grain and pack gears.

The effect was electric, explosive. The merchants seized armfuls of their stock and bolted for shelter; hillmen of a dozen races came running with stubby mallets in their hands and, mounting the nearest pony, pressed upon the ball.

Watching polo from the door-steps

Horned, hairy yaks grunted, goats and sheep bleated, ponies snorted, women chattered and screamed and men yelled. Now a dozen stout ponies were stamping the rough lump of bamboo root into the stones, now a score. The air was black with flailing sticks, and their resounding thwacks, as they fell on man and beast alike, mingled with the bedlam of barbaric cries.

Now the ball was kicked from the whirling maelstrom, and a quick wrist-stroke sent it flying out of the crowded bazaar and down the narrow street. A fugitive Tibetan girl, her arms full of strings of turquoise hair ornaments, blundered in front of the leader, fell sprawling, and half the clattering pack passed over her felt-padded anatomy without doing apparent harm to anything but the scattered stock of jewelry.

Every able-bodied pony in the bazaar was seized, mounted and sent in pursuit of the flying throng. There was no endeavor to resolve into sides. Each man strove only to hit the ball as hard and as often as possible. Where it went was a secondary consideration. Wayfarers and loiterers seemed to understand what was coming, and the street cleared as before the charge of a troop of cavalry. Most of the traffic bolted to safety through windows and doors, but a small flock of fat-tailed sheep, which balked at being driven into someone's front parlor, was fed into the vortex of hoofs like meat scraps into a sausage machine, to emerge in about the same condition.

A brace of unhorsed hillmen, scarcely distinguishable in their sheepskin coats from the bodies of the trampled wethers, were left floundering in the shambles as the press swept on. A blind side-swipe sent the ball through a half-shuttered window, and the iron-shod hoofs struck sparks from the flinty cobbles in the rush to be first upon the bruised spheroid as it was tossed back into play. Then a quick-eyed Ghurka, on a shaggy rat of a Tibetan pony, got away for a clean run, and, hitting the ball time after time as it shuttled back and forth between sidewall and pavement, carried it out of our sight round a corner.

Burton and I, already late for tea at the Commissioner's, had reluctantly to forego following further in the wake of the avalanche we had set in motion. As an aftermath, however, we were called upon that evening to give audience to a "damages deputation," and, after an hour of voluble but altogether amicable parley, paid for five fat-tailed sheep, half a dozen sets of shattered hair ornaments, several bags of grain and a number of minor casualties. The claims, strange to say, were entirely reasonable, amounting to less than thirty rupees in all, and the fun—especially for one interested in where polo started and how it found its way to the outer world—was cheap at the price.

This will give some idea of what early Indian polo must have been, the game of the bounding willow ball which was passed on from the Himalayan hill states to the sport-loving nobles of Rajputana and the Punjab. It was the polo as developed by these latter which came to be known as "the game of kings," for the manly Nawabs, Rajahs and Maharajahs of these warlike states, ever accustomed to taking personal lead in battle or the chase, were not content to remain passive spectators while any contest of strength and skill was going on. Some of the best polo players the game has ever produced have been rulers of one or another of the native states of India.

One of the most striking instances of polo enthusiasm I recall ever having encountered in any part of the world was not in the Himalayas, as it chanced, but in Mergui, in the southern "panhandle" of Burma. Here the British army officers and planters behind the sport not only had the nerve to play along the bank of a river, as I so frequently saw done in Ladakh, but they actually had the courage to incorporate a flood-swollen stream in the field itself—high-water mark of sporting achievement in more ways than one.

The district in question, like the lower end of the Malay Peninsula, was in the throes of a rubber boom at the time, and incidental to clearing a dense stretch of tropical jungle it was planned to make some sort of a polo field. All that cutting and burning could do, however, was to get rid of the lighter brush and timber. Several giant stumps still remained, together with a half dozen forty- or fifty-foot lengths of prostrate trunk, while straight across the middle of the field meandered a sizable perennial stream, for the diversion of which no practical means was discovered.

Several years would have to elapse before the timber and stumps would be dry enough to burn, and the expense of building an underground conduit for the river was prohibitive. So the forthright enthusiasts, with veritable Oriental philosophy, simply did the best they could with the facilities offered. The stream, except when it ran away with the ball as happened every now and then, was not a serious handicap, and the stumps could generally be avoided. But the great prostrate trunks seemed to get mixed up in every run. There were a good many accidents at first, both to man and beast, and the feelings of one plantation manager—he was a Dutchman, from Sumatra, and had scant sympathy with sport of any kind—respecting the demoralization of his staff of assistants, as a consequence of the game as played, was summed up in his plaint to me that "haff of mein men vas haff kilt, and all of dem vas all crazy."

At the end of a few weeks of this steeplechase polo the casualty list had increased to an extent that left neither ponies nor players enough to make a game, and before two full teams were ready to take the field again elephants and dynamite became available. Between these two irresistible forces stumps and logs were soon blown up and dragged away. When I visited Mergui a few years later this remarkable field was two feet deep under the water of its monsoon-rain-swollen river, but I was assured that, in the dry season, "though a bit soggy at times, it is really a very sporting bit of turf."

The story is told of a polo field at one of the Northwestern frontier posts, which was so near the Afghan border that the festive Afridis used occasionally to lie hidden among the rocks of their own hillsides and indulge in long-range target practice at the flying figures on the *maidan* below. This was back in the '80's, when polo was just becoming universal at the frontier army posts. Scant attention was paid to the shooting, for the Afridis, though excellent marksmen, were rarely able to do any damage at long range with what Kipling called their "ten rupee jezails."

Polo went on as usual until one day some of the first forerunning Mausers from the yet undeveloped Persian Gulf gun-smuggling trade fell into the hands of the tribesmen at this point. It was Saturday afternoon; a game was on with a visiting four from Peshawar, and the players were just beginning to straggle out for a preliminary warming up. One of them—the captain of the visitors—was in the act of carrying the ball down the field at an easy canter, when there came the shriek of bullets in the air. The rider went tumbling from his horse, shot through the chest, almost before the ringing cracks from the distant hillside told that modern high-power rifles were trained down from the brown rocks which had so often before been overhung with the drifting blue smoke wreaths of the harmless old jezails.

I could tell the story of a tiger that was shot and killed one night almost between the goal posts of a polo field in northern Burma, where it had dragged and was eating at leisure the body of the post's crack pony, or of how some rhinos came down early one morning to a polo ground in Upper Assam and, in endeavoring to reach the fodder that was stored for the ponies, completely wrecked the stables. But I need hardly multiply instances farther to show how well the Himalayan hillman's polo tradition has been carried on in the low country to which he gave it, and what a splendid sporting instinct must imbue the Anglo-Indian poloist to lead him to carry on with the game under such untoward conditions.

* * *

As two of the outstanding institutions of a small country, Ladakhi polo and polyandry are almost inextricably intermingled. It is rarely indeed that you touch the one without impinging upon the other. My contacts with the plurality-of-husbands system came about in the course of just such little jaunts by nullah or river valley as had first landed me in the heart of that maniacal bob of chasers of the little willow root ball. But first a word as to the physical and ethnological conditions which have conspired to make this restricted bit of the westerly slope of the Roof of the World one of the last remaining regions in which polyandry is still universally practiced.

The social customs of any primitive race are a consequence of its physical environment in direct proportion to the completeness of its isolation—the extent to which it has been cut off from contact with outside influences. Mingling with new peoples and, especially, the adoption of a new religion modify old customs, but such of these latter as are a direct growth of environment are always the last to change. The persistence of polyandry in Tibet, Ladakh and other parts of the Himalayan highlands is a striking and illuminative case in point.

In primitive communities man very naturally welcomes a large family in direct proportion to his ability to support it, and we find polygamy most actively practiced in those tribes that live in the midst of plenty—where the struggle for existence is least bitter. Wives mean children—at least in primitive communities—and, where the fight for a living is keen, we find that the size of the family is kept down by the simple expedient of keeping down the number of potential producers of children. Christianity's teachings have undoubtedly been the greatest factor in the moderation of us Occidentals in the matter of legal wives, but the difficulty of supporting properly in temperate latitudes, by the labor of one pair of hands, the offspring of more than one wife has also operated very potently.

Polyandry in the Himalayan highlands is the natural consequence of conditions of life still more onerous than those which confront the dweller in the more productive temperate latitudes. In these bleak, wind-swept valleys, where only the most insignificant bits of land can be reclaimed from the ice, snow and rocks, there is scant room for an increase of population, while the prejudice of a mountain people against moving to the plains makes relief by immigration out of the question. The Chinese and certain of the South Sea races, to whom the comparative austerity of this system was not welcome, have vainly endeavored to compass the same thing through infanticide. The Tibetan plan has kept the population of the country well within the capacity of that bleak land to support, through the evolution of a perfectly natural and humane system. In Ladakh, which is the eastern or Himalayan section of the Indian state of Kashmir, the religious and social usages are much the same as in Tibet proper, and polyandry in particular presents certain phases even stranger and more remarkable than in the Forbidden Land. It was these which I glimpsed so frequently and so intimately in the course of my watches by the cradle of Himalayan polo.

The Ladakhi—and the same is true of most other orientals—takes marriage more seriously in some respects, and more lightly in others, than does the Occidental. He takes it more seriously in that a matrimonial alliance of some sort is considered an absolute *sine qua non* to the realization of the fullness of his being, and more lightly in that the responsibilities of a union once contracted sit upon him with only the most feathery of pressures. An Occidental is generally supposed not to marry until he is in a position to support a wife and rear a family; the Ladakhi would face death as a bachelor with something of the same horror that a good Catholic would contemplate the like contingency unshrived. Under the circumstances, perhaps it is fortunate that polyandry "automatically supervenes," and that the union of a girl with the eldest of the several brothers of a family immediately saddles the lot of them with the responsibility of taking care of her and any children that may come of the joint union. Theoret-

A Ladakhi bride and her three husbands

ically, she is supposed to be little better than their common slave; in practice, as is always the case where there is active competition for a woman's favor in any other altitude or latitude, it is they who are beneath her heel.

The child betrothals and marriages so common among the Hindus of India are not in vogue with the Ladakhis. The usual practice is for the eldest brother of a family, on reaching the age of eighteen or twenty, to seek out and make the proper advances—through her parents—to an eligible girl of about the same age. There is scant celebration in honor of the betrothal, and the marriage itself is marked by little save a variation of the ancient custom of pretending to drag off the unwilling female by force.

The gay young bridegroom, dressed for the first and perhaps the last time in his life in a complete outfit of clean garments, swaggers off to the home of the bride, there to be confronted with a circle of truculent relatives drawn up in a forbidding ring around the house. Partly by fair words, but principally it always seemed to me through potent reinforcements, in the form of a skin of barley beer, which are generally rushed up at this critical juncture, he wins his way through the outer defenses, only to find himself sorely beset by a swarm of furious females who are making a last stand before the door of the bride's apartment.

These belabor him with clubs, the while indulging in a running fire of abuse, ranging from a recital of the despicability of his ancestry to a tirade against his presumption in daring to aspire to the possession of the jewel within. Expostulations or denials are distinctly bad form, and physical resistance worse. Instead the artful swain induces his by-this-time faithful allies of the outer defenses to come to his rescue with more skinfuls of barley beer. This potent persuader, coupled with presents of turquoise hair ornaments, makes an end of all opposition, and the citadel is as good as taken.

But instead of seizing upon his prize at once, the bridegroom proceeds to celebrate his triumph by calling for music and more *chang* or beer, and for the rest of the night leads the gathering in a wild orgy of song-and-dance, from all participation in which, however, the blushing damsel of his choice is rigidly excluded. Custom decrees, in fact, that the latter, feigning ignorance of the purport of all that is going on, must remain secluded in her apartment in "maiden meditation, fancy free"; and it is not until the morning sun begins to gild the tops of the encircling Himalayas that the bridegroom is reminded—not infrequently the "reminder" being in the form of a skinful of icy water employed as a reviver from his drunken stupor—of the real reason for his little visit.

He pulls himself together and tries the door of the bride's room. It is locked. Tiptoeing stealthily outside, he approaches a shutter and scratches in imitation of a prowling cat. Of course the maiden springs up to shoo away the feline intruder, and lo! it is Mulik! Will she fly with him?

Fly with him! At such an hour and without warning—how preposterous! And yet—why not? How is she going to sleep with all that racket in there? Does he by any possibility know a quieter place—one where a modest girl would have some chance of getting a few minutes of the rest she needs so badly?

Her eyes are starry in the purple of the dawn, and the nip of the snow-kissed breeze has galvanized his slumbering pulses. He lifts her eagerly over the low threshold and sets her down beside him on the ground. Softly now, for they may be watched. Hand in hand, around the corner of the house they tiptoe—to find all the deliriously reeling wedding guests lined up in a double row to receive them. Every guest holds one of the many emptied barley beer skins in his fist, and with these the flying couple are mercilessly pelted as they run the gauntlet to the gate. That is all there is to it; thereafter they are considered man and wife.

Substitute champagne for barley beer and old shoes for sheepskins, and make a few allowances for the modifying effects of local customs—and how little there is to differentiate one of these Ladakhi nuptial parties from weddings which one doesn't have to circle half the world and climb 15,000 feet to attend! My own humble role, in each of the several functions at which I was privileged to appear, invariably resolved itself into a buyer-of-barley-beer, a proposer-of-many-healths in the delectable *chang*, and a slapper-of-the-backs of the departing principals with the emptied sacks. Again, making the necessary allowance for latitude and altitude, much to recall Park Avenue in those amenities, too.

The husband who has carried off the bride—the eldest brother, of course—is supposed always to be the head of the house, although a certain number of the younger brothers have legal rights equal to his own. With the better class of Ladakhis it is customary to limit the number of brothers married to one wife to three, the youngest of any number above that being expected to join a lamasery or get himself adopted into a family in which the regular quota of brothers is short. Among the lower classes, all the brothers, irrespective of the numbers, share in the wife just as they do in the rest of the family property. Anyone who has seen the rule of the solitary waitress in a western mining camp restaurant, or of the lone stewardess on a tropical steamer, will have no difficulty in deciding who is the real head of the family.

It occasionally happens that a wife fails to find happiness in her new estate. If so, she usually packs up forthwith and returns to her family, in which event little happens beyond a lot of dickering between the ex-high-contracting parties respecting the refund of purchase money. This arranged, the lady is considered legally divorced and free to ally herself with another family of brothers who may, as is frequently the case, have been instrumental in prompting her to take the step.

There is one contingency in which the wife may obtain a divorce from her husbands and start with a clean slate under conditions entirely favorable to herself. This arises when the eldest brother dies, on which occasion, should she so desire, the widow may attach herself to the corpse with a string and proceed to sit out the night in its cheering company. If the thong is severed in the morning she is permitted to leave the family without restitution of any of the price paid for her. Of course the lady snaps this symbol of the holy bond of matrimony herself, but custom has decreed that the responsibility shall be saddled upon the spirits and that she shall reap the benefit.

As in other parts of the world, incompatibility of temper is the principal cause of divorce, and if the head husband and the wife are in accord respecting their discord the separation is easily and expeditiously arranged. The younger brothers do not figure in the negotiations incident to the solution of the continuity of their marital state to any greater extent than in the nuptial ceremonies.

Derelictions on the part of the husband are taken as a matter of course and furnish the wife no grounds for terminating her contract, but she herself is expected to preserve greater circumspection. While it is hardly assumed that she shall keep herself on the high moral plane of Cæsar's wife, yet if caught *in flagrante delicto* she is liable to summary ejection. In the case of divorce, children stay with their mother for six or eight years; then they return to the home of their birth, to which they ultimately succeed.

On account of the rigors of the climate of Ladakh, unfruitfulness is by no means rare, and in the event of failure of issue in the case of the first wife, the husbands are privileged to try another, and even a third. If failure still persists, it is customary to select a *portak* or fourth husband at this juncture, and after him one more. As a *dernier ressort,* if there are still no children, a fourth wife may be summoned, after which, should the family cradle continue empty, a wholly fresh start is made by adoption.

The head husband and wife select from their respective families a boy and a girl of marriageable age, the pair being united and adopted in a single ceremony. If these two have no children it is taken as a sure sign that all of the parties concerned are under the displeasure of the Most High, and forthwith the whole group breaks up into its component parts, the various individuals hying themselves to monasteries or nunneries, as the case may call for, thereby hoping to get back upon the highroad to Nirvana, from which they believe themselves to have been temporarily sidetracked.

But the most remarkable person arising out of the topsy-turvy matrimonial system of Ladakh is the *makpo.* As I have stated, the first three brothers of a family are allowed to keep the ancestral home and take a wife unto themselves. A fourth son must enter a lamasery, and it is from those who come further down the list that the *makpos* are chosen. No other race of people, civilized, barbaric or savage, in the modern or ancient world has anything approaching a counterpart of the *makpo.*

As in other countries, there are occasional families in Ladakh unblessed of sons, and when this happens "whole eons of injustice to womanhood" are wiped out in the person of the eldest daughter. Primogeniture obtains with a vengeance in the high Himalayas, and that fortunate young person is the sole inheritress of the family property. In the words of Fraser, who made a considerable study of the subject, "she never marries, yet she enjoys all the happiness of matrimony. She may have a hundred husbands, yet not one man in the world may call her to account. As childhood merges into womanhood her parents seek out a *makpo* for her, and all the spare men of the neighborhood compete for the position. She takes exactly whom she chooses, and kicks him out in a week if she does not like him, in which event the law allows him but a single sheep as recompense and heart balm."

The ordinary Ladakhi girl must wait until she is eighteen before she may be claimed by a husband; the eldest daughter of a rich man is permitted her *makpo* at twelve or thirteen. The ceremony may be described as largely the reverse of ordinary Ladakhi marriage, in that the father of the girl goes to the house of the boy and takes possession of him somewhat after the procedure in the prenuptial revel I have described. After the usual night of feasting the lucky youth is led off to his new home and delivered up to the tender mercies of the young heiress, from which moment he is regarded as her husband.

His tenure of office, however, depends entirely upon the whim of what must necessarily be a most willful and capricious bit of femininity. A home, riches, idleness, the prospects of progeny and barley beer *ad libitum*—all that is dear to the Ladakhi heart—are his just as long as he happens to tickle the fancy of Miss Whimsicality. But his shrift is not even the tenuous one of good behavior, the usual chalk mark to be toed by the aspiring youth who seeks a short cut to wealth and happiness by taking an heiress in the Occident; for nerves or indigestion on the part of Her Ladyship may have quite as much to do with his summary dismissal as his own derelictions.

An heiress may have as many *makpos* as her father has sheep with which to solace the grief of those dismissed—and, in spite of the scantiness of forage, many of the thrifty old Ladakhis have some very sizable flock-rolls upon which to draw. As a matter of fact the inroads upon the fold are never very serious, and there is actually a case recorded at Leh where an heiress lived all her life with her first *makpo*. This is considered a remarkable instance of forbearance of prerogative, however, and an old Ladakhi who was one of my packers on a jaunt into Jammu gave it as his considered opinion that the natural increase—the excess of births over deaths—in a flock of a hundred sheep would about serve to pay off the dismissed *makpos* of the average heiress of his country. Himalayan sheep are not guinea pigs for reproduction by any means; but I am still inclined to believe that the old sinner presumed to take advantage of a stranger's credulity, and that even this modest estimate is an exaggeration.

Surely the *makpo* has no parallel in any other part of the world. Yet almost equally remarkable are the provisions made for a brotherless and parentless Ladakhi boy of property. A girl of the usual matrimonial age of eighteen is selected and married to the youngster, to be, as has been aptly said, "the nurse of his youth and the wife of his manhood." On arrival at the latter state, however, he is privileged to put aside this now matronly individual and brighten his establishment with a helpmate nearer his own age.

Speaking of the uncertainty of tenure of the *makpo* of a capricious Himalayan heiress reminds me of what happened to one of these functionaries whom I chanced to encounter at a tiny mountain village where the road from Kashmir to the Pamirs and Central Asia begins its climb toward the wind-swept, snow-blocked reaches of the lofty Karakoram Pass. There were two microscopic villages, in fact, one clinging precariously to either bank of a rocky nullah down which thundered a tumultuous mountain torrent on its way to join the waters of the upper Indus, many miles below.

There was intense rivalry between these two Himalayan centers of population and culture, this finding its principal expression in an apparently interminable series of polo games, played on a rocky triangle of ground where another nullah came in half a mile farther down the valley. As nearly as I could ever make out, this championship series opened in the spring on the very first day that the snow on the *maidan* was sufficiently melted to allow the ponies to wallow through, and continued daily until the October snows put an end to it. Nothing could be more fairly representative than these matches, for they were played by every male that the one village could muster and mount battling against every male that the other could put in the field.

At the time my little caravan pulled in and made camp, Kolan was playing ten stubby poloists against the eight of Antor. The latter had started the season with eleven, but between one man drowned in trying to cross the flood-swollen stream on a leaky sheepskin and two who had suffered dislocated shoulders in falls upon the boulder-strewn field they had been reduced to their present inferiority of numbers. Kolan, starting with twelve, had lost but two—one dying from pneumonia, and one mauled by a bear—so that its relative margin of numerical superiority was somewhat increased by the fortunes of war and attrition.

This advantage, however, had been only just about enough to enable Kolan to overcome a lead with Antor—as a consequence of the work of an outstanding individual star—had been able to pile up earlier in the season. The game I stayed over to see was about the hundredth of the season. Antor had a lead of only four games won. It was generally admitted by the experts that their sole hope lay in an early setting in of the winter snows, which would bring the season to its official end before their lead had been completely wiped out by the steadily climbing Kolans. There was, of course, the chance that Kolan might be heavily weakened by injuries in the increasingly desperate scrimmages; but so also might Antor. That was nothing to count upon.

The Antor star and captain, to whom I have alluded, always appeared to be referred to as "Tee-kan's *makpo.*" Tee-kan, it seems, was the outstanding heiress of Antor, and, with over four score fat-tailed sheep and half a score *moods* of barley terraces to draw upon, there was none to approach her for wealth along that particular gable of the Roof of the World. Moreover, she was beautiful—as Ladakhi eyes see beauty. That is to say, she was generously rotund, well flattened of nose, straight of back and bowed of legs. In short, quite the belle ideal of a prospective *makpo's* dream.

Although but eighteen, Tee-kan had taken and discarded several *makpos* already. The youthful captain of the Antor *pulu* team she had "elevated" for his prowess in the game, for the hard-riding, hard-hitting scrappiness that had given his team an early season lead. Everything had gone swimmingly in Tee-kan's stone-begirt bower as long as Antor had continued to lengthen its lead, or even to hold that which had already been piled up. But when it was weakened by the loss of three good men and true and the fortunes of battle began to turn in favor of its rival, matters matrimonial assumed a different aspect. Tee-kan delivered an ultimatum. Her *makpo* should keep his place in her heart and home only so long as his team maintained its lead. But if Kolan took the pennant, the Antor captain would have to "take the sheep."

Now Tee-kan's *makpo* was a scrapper from the soles of his flat feet to the roots of his stubby hair, and the story of the desperate fight he was putting up to stave off impending defeat and its penalty had reached us even in the bazaars of Leh. I have already explained that "riding off" in Himalayan polo usually involved shoving a man and his mount into a torrent rather than out of a play, and that it is rated finer inside technique to "hook" an opponent's neck rather than his mallet. Of all these technical niceties Tee-kan's precarious *makpo* was a past master. He had been trying to eliminate Kolan's captain in every game that had been played for the last month. so that the daily competition had resolved itself into little better than a mounted rough-and-tumble between these two doughty experts. If I stayed over for a game, it was urged, there was always the chance that I might see Tee-kan's *makpo* force Kolan's captain over the bank and into the giant whirlpool from which no man or horse had ever struggled out alive. It was only a matter of time until one or the other of them went down in the great maelstrom, and the odds were two fat-tailed sheep to one against the Kolan skipper.

I stayed, but only to see Tee-kan's *makpo* lose another game and drive another nail into the coffin of his hopes. I won't endeavor to describe the titanic struggle. It would take a Homer to do justice in any case. The Antor captain's skill and aggressiveness made the fight an even one almost to the end of the final *chukkur*. Then, unable to refrain from taking advantage of an opening to swing his mallet upon the head of the Kolan captain, he uncovered his goal and a shifty forward drove the bounding bit of willow root between the stone posts. Tee-kan was giving her dejected *makpo* a terrible tongue-lashing as we passed her home on the way to camp.

We descended to Antor-Kolan at the end of a week on our return to Leh, and as I caught sight of the snow-covered *maidan* at the junction of the nullahs I was wondering whether or not winter had set in early enough to save Tee-kan's *makpo* from being cast out into the cold. The question was answered by a lone figure that stumbled into my camp that night, leading a fat-tailed sheep at the end of a rawhide thong. It was Tee-kan's *makpo* looking for a lift to Leh with my caravan. That fallen Lucifer had not even a shaggy polo pony remaining. As befalls occasionally nearer to Hurlingham or Meadowbrook than the Himalayan rooftree, even his mounts had been provided by his wealthy wife.

CHAPTER XI

"BY THE RIVERS OF BABYLON"

A Goatskin Kalek *Bears Me Down the Old Euphrates to the Hanging Gardens of Nebuchadnezzar and a Banquet in Belshazzar's Feast Hall.*

THERE was magic, even in those far-away days, in the vision of a voyage by goatskin raft from the source of the Tigris to the Persian Gulf, and when the ruddy-cheeked Armenian who claimed he was able to arrange it offered a short jaunt down the Euphrates by way of a sample, I was glad enough to hold up my Aleppo-bound caravan at Baghdad for a few days to gain some hint of how the fascinating project might work. When a much-to-be-desired invitation to visit some important new discoveries at near-by Babylon threatened to interfere with the river expedition, the resourceful promoter was equal to the emergency.

"If the British engineers building the Hindia Barrage will give us permission and a little help," he said, running a thumb along his dog-eared map, "we will shift the *kalek* to the old channel of the Euphrates at that point and voyage to Babylon even as they brought Daniel in the days of old."

Realizing the futility of saying no to a man who could incubate ideas like that under his greasy felt turban, I promptly put all arrangements into his hands, and eventually everything worked out as planned. Pitching my tent on the buoyant bags of the *kalek* as a base, we had interspersed short drifts in the current of the storied Euphrates with side trips to fanatical Kerbela and Nejd, where the devout Mohammedans had refused to sell even a handful of dates to the servant of the despised *Ferenghi*. There had been a day's ride with and a night of hospitality from a nomad *sheikh* of sinister reputation, who proudly showed us the loot of a Persian caravan he had sacked within the week. There had been a gazelle hunt in which the dogs were borne in the arms of the mounted hunters until the moment of the final coup arrived. There had been chill nights when we had shivered in close-drawn cloaks on the benches of Arab coffee shops or solitary Turkish khans; warm noons when we had munched dates and Arab bread in the grateful shade of bowers of greenery by canal lip or desert well.

Finally had come the portage round the new dam at Hindia, which was to be the key project in Sir William Willcocks' great plan for "The Restoration of the Garden of Eden." Below there had been a short carry to the ancient silt-choked channel of the early Euphrates and then the somewhat tedious progress through all-but-currentless water to where the crumbling sun-baked brick walls of the once-towering structure Nebuchadnezzar had built—to dry the tears of his Persian queen who wept for her homeland mountains—marked the site of Babylon the Mighty.

Climbing up from the water, I followed the Armenian past the guard of Turkish *zaptiehs* at the gate of a broad low structure of comparatively recent construction. At the end of a dim arcade a squatting white-clad figure appeared to be in the act of feeding an illimitable mob of yowling cats.

"Take and carry to the Master," ordered the dragoman brusquely, thrusting my letter from the German Consul at Baghdad into the hand of the squatting menial, failing to accompany the action with the customary shove only on account of the intervening wall of cats. An instant later the figure straightened up and I found myself shaking hands with the distinguished Dr. Koldeway himself.

"We have been expecting you," he said genially, "and I am pleased to say that the two distinguished French archæologists whose caravan is accompanying yours to Nineveh and Aleppo have also arrived. Pajamas are evening clothes at Babylon at this season of infernal heat, and dinner will be ready by the time you have bathed and shifted into yours."

The swift Mesopotamian twilight had passed as we lingered over vermouth. Picking our way in the dusk through the broken arches, we sought the places where our names appeared in fantastic imitation-archaic-cuneiform inscriptions upon fragments of tile from the palace wall. Soft-footed Arab servants filed in through a tottering portal and placed soup before us. The fragrant steam, rising incense-like, turned to coils and loops of gold as it wound into the haloes above the shades of battered brass which fended from our eyes the flickering rays of yellow oil flames winking at the lips of the ancient stone lamps.

"Gentlemen," said our host in English, "we all have good appetites after our long day in the open air; so let us, as the Yankees say, fall to at once."

The impromptu little dinner, in the recently excavated Feast Hall of Belshazzar, had been arranged on very short notice by Dr. Koldeway and his colleagues in honor of what they called the "Franco-American invasion." Paul Toscanne and Roland de Mequenen had just arrived in Baghdad after notable excavations in the ancient Persian capitals of Darius and Xerxes, for the Museum of the Louvre. Their work well known to the German archæologists, even the increasing tension in Europe, so soon destined to result in the Great War, could not prevent every courtesy to which they were so well entitled being extended to them by their colleagues of Babylon. One of the ruined portals under which we dined was draped with a "Made in Baghdad" French tricolor ordered especially for the occasion.

An attempt had been made to procure an authentic imitation of The Stars and Stripes, in celebration of my American citizenship, but the design had been too intricate for the Oriental artificers to produce on a rush order. By way of compensation the centerpiece of the table was a battered stone bird discovered in a crypt beneath the Temple of Ishtar. Though palpably intended in the first instance for a Babylonian goose couchant, it was this evening, after being decorated with a red-white-and-blue ruff and tipped up at an angle of forty-five degrees, held to represent an American eagle rampant. Further decorative touches were Babylonic, Arabic or Teutonic inspiration.

The soup, though appearing on the menu stones as "Potage Nimroud," had come from a can with a French label. It had a distinctly appetizing odor and no second injunction to fall to was necessary.

Cool and comfortable, we dined in our pajamas in Belshazzar's Feast Hall—Dr. Koldeway, his three assistants, the two French archæologists and myself—and the talk was of Europe and America and China, of the Italian war in Tripoli and the little things of local life, of everything, in fact, except ancient Babylon and the engrossing work in hand.

Dr. Koldeway told of his new Yankee motorcycle and the grief to which it had brought him when he endeavored to use it in a cross-country chase after gazelles. Dr. Reuther told of their troubles with the rascally *sheikh* of the near-by native village, who only the day before had shot a Persian pilgrim in pure wantonness, and then thrown him, with the two embalmed bodies he was bearing to Kerbela for burial, into the well from which the scientists drew their water. He concluded his grisly recital with a paraphrase from the Psalmist, which Byron used as a title for one of his poems:

"By the rivers of Babylon
We sat down and wept."

adding resignedly, "and tonight we can only offer you German beer to drink."

Our distinguished hosts were evidently inclined to the avoidance of shop out of working hours, and it was not until the following morning, when Dr. Wetzel took me in hand for a tour of the ruins, that I felt free to ask questions.

Then I learned that the mission, which owed its conception largely to the efforts of the then Emperor William, had come out to Mesopotamia in 1899, Dr. Koldeway having been in charge from the first. Work had been started on a large but only slightly explored series of mounds on the old channel of the Euphrates above Hilla, from which the brick to build the latter town had been quarried, and from which, also, much of the material for a comparatively useless barrage at Hindia had been taken by the Turks.

At this time nothing definite had been known as to what the mounds really were, but the fact that all of the quarried brick bore the name of Nebuchadnezzar stamped on them in archaic cuneiform characters had led to the belief that the heart of the richest of the ancient civilizations might have throbbed at that point. Work had been prosecuted, as had been explained to me at Baghdad, with the idea of revealing all that was hidden.

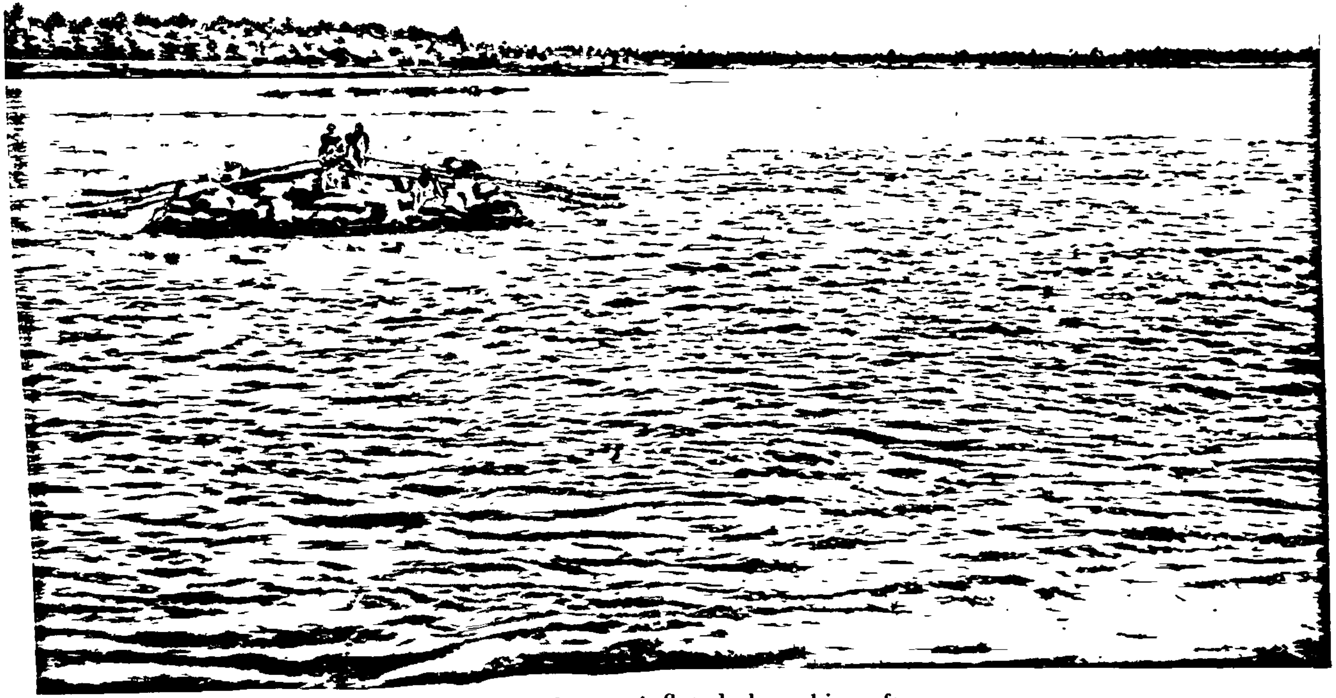
"The work of the Deutsche Orient Gesellschaft at Babylon is the most thorough and comprehensive piece of excavation ever attempted," the German Consul had proudly assured me. "Heretofore all excavation that has been done in Mesopotamia—and in all other parts of the world as well—has been little more than a search for relics of a character calculated to make the best museum display. At Babylon 'finds' have been a secondary feature of a work the main idea of which is to uncover and draw to the last brick every standing fragment of the walls of the palaces, temples and other buildings, until sufficient data are obtained to make possible a pictured restoration of that ancient city so exact as to rival the original sketches of the architects of Nebuchadnezzar. Dr. Koldeway's work at Babylon will undoubtedly entitle him to rank as the foremost archæologist of his generation, and you should not miss this chance of making his acquaintance and watching him at work."

Shortly after the first scientific excavations were started at the old brick quarry by the Euphrates not only had the identity of the ruins been established beyond question, but a series of tablets had been discovered, the translation of which cleared away the mists of doubt that had always obscured many of the most striking events told of in the Old Testament —notably the Deluge. Another series turned out to be the "books" of a great Babylonian banking institution. Other tablets told of remarkable social and economic conditions hitherto unguessed, while others proved to be architectural records of such accuracy that they were the greatest help in prosecuting further exploration.

Now, after a dozen years of uninterrupted work (it had hitherto been the custom for archæological missions in this part of the world to push operations only in the cool winter months), nearly all the sailent objects of the Biblical and Grecian descriptions of Babylon stood revealed beyond a doubt; and as Dr. Wetzel led me here and there through the uncovered ruins he spoke of this and that feature of interest with the easy assurance of a Cook's guide in Rome or Paris.

"We know these must have been the Hanging Gardens because of the great size of the supporting pillars. Those foundations would take a New York skyscraper, and in Nebuchadnezzar's time there could have been no reason to build thus except to support some such weight as the replica of a Persian mountain scene which that monarch is said to have fashioned at the whim of a homesick favorite he had brought from Iran. The Tower of Babel, which has always been popularly identified with the great mound called Birs Nimroud, some miles to the north, we were able definitely to locate through data obtained from tablets. Such of its upper walls as existed within the mound were torn down for bricks by the Arabs many years ago, but we have laid bare its foundations, as you see, and from the angle of its stairway have estimated its height at about two hundred feet. So, while it was several times as high as the loftiest of the palaces, it must have had more the form of a modern steel-frame fifteen-story office building than that of a tower, as we ordinarily understand the latter.

"Temples of Baal and of Ishtar—the latter was the Baby-



My *kalek*, or inflated sheepskin raft

lonian prototype of Venus—we have uncovered at a number of places, the largest being those connected with the great palaces. They are always identical in form—large outer chambers opening successively to smaller ones until the 'Holy' and the 'Holy of Holies' are reached—as you may see by tracing the lines of the foundations. That narrow passageway, walled off from all the chambers to which the worshipers had access, but penetrating to a recess behind the 'Holy of Holies,' is an invariable feature, and we have not yet been able to account for it. The most likely theory seems to be that it was used by the priests to reach the hidden recess, from which strange sounds to mystify the worshipers were made to emanate. Possibly, even, definite oracular functions of questions and reply were carried on. Tablets throwing light on the question may be uncovered any day."

We passed along the bitumen-paved Street of Daniel—so called because it was the only passage giving access to the palace dungeons where the Prophet was believed to have been confined, and therefore must have been the one in which he walked to take the air—and found a newly arrived motion picture man from Baghdad trying to put the members of one of the excavating gangs through their paces. Fresh from the soaring portals and ornate pillars of Palmyra and Baalbek, he had found in the crumbling sun-dried brick foundations of Babylon few of the outstanding features so imperative to the picture which is to figure in popular exhibitions—a deficiency he was trying to remedy by introducing "human interest."

Now, one of the men was supposed to be detected in the act of tucking away in his loin cloth a jewel which he had unearthed among the ruins, and, after a struggle, was led off by two hovering *zaptiehs* to condign punishment; now, two of the workmen became embroiled in a quarrel and put up a very good imitation rough-and-tumble fight at the foot of a statue of a man-eating lion; and now, crowning touch of all, the dignified and sedate Dr. Koldeway was made to execute a *pas seul* of triumph in front of the clicking machine, in celebration of the supposed discovery of a priceless tablet.

The indefatigable operator even had a scenario roughly sketched in which I—the villain, impersonating a rival scientist disguised as a hunter—was to purloin some carefully guarded tablets which contained unguessed secrets of the past, to be betrayed by an Arab dancing girl, and pursued and captured, after a long chase across the desert, by the hero, a trusted servant of Dr. Koldeway. Inasmuch as the finale involved, for the villain, a limp tumble from the back of a camel flying before the pursuit of the Doctor's motorcycle, I was not entirely sorry that lack of time if not of talent prevented even the preliminary rehearsal of this playlet.

One of the most interesting things incident to a tour of the ruins is the noting of evidences of occupation by the long series of conquerors who followed the downfall of the Babylonian empire. This portion of the palace of Nebuchadnezzar was restored by the Medes and Persians; this open-air theater was the work of Alexander the Great; that line of foundations marked a Parthian temple; that was a Hittite causeway, and that restoration of the Temple of Ishtar bore Roman earmarks. From later Roman times the ruins must have looked much as they do now, for there is nothing to show that the Arabs had a city at this point even in the times of the Kaliphate of Baghdad.

But among all the evidences of this and that despoiler or restorer, there is one structure that has not been, and probably never will be, traced to its true origin. For the great city of Babylon—fourteen miles square within the walls—was itself built upon the ruins of a city scarcely less extensive, and so ancient that even the records of the Babylonians themselves have so far failed to reveal its name or builders. Traces of this prehistoric capital have been found wherever excavations have gone beyond a certain depth, a level, unfortunately, at which the far-flowing seep of the old channel of the Euphrates was always encountered. As the water level was raised and made permanent by the subsequent completion of the Hindia

Barrage, there is scant likelihood that this problem, one of the most alluring ever offered to archæologists for solution, can be worked out.

Something of the fascination which this Riddle of the Ages had held for the scientists of the German mission, I realized when I stood with Dr. Wetzel at the river-front face of Nebuchadnezzar's palace, where the rounded brick pillars of a still more ancient structure might be dimly guessed through the dark water that filled the excavation and stopped the work, and heard him tell of the countless nights when, unable to sleep from thinking of it, he had paced up and down those banks and pondered upon the mystery beneath.

"Never was anything so near and yet so completely beyond reach," he said plaintively. "And the most aggravating part of the whole thing is that some of the bricks of the lower palace are stamped with a name or a legend, just as are those of Nebuchadnezzar; but in a character just different enough to baffle translation without the discovery of a 'key.' There are gray hairs in the head of every member of the mission which stem from nothing else but fruitless speculation along this one line, and especially as to the meaning of the writing on the submerged bricks."

"How about Kipling's,

> "After me cometh a builder.
> Tell him I too have known,"

I suggested.

"That's probably as near as anyone will ever come to it," he said with a sigh as we turned to go. "And if the word 'archæologist' could be substituted for 'builder,' I don't know any epitaph I would prefer to have on my tombstone, especially if it were to be decreed that I was to rest out here near the scene of our labors and dreams."

Almost if not quite as great a disappointment to the members of the Babylonian mission as that occasioned by the impossibility of delving after the secrets of the buried city, came four or five years previous to my visit with the ascendancy of the so-called "Young Turks" party, when it was decreed that no antiquities of any kind, no matter by whom found, should be permitted to leave Turkey. Except for a single small shipment, the priceless accumulations of the first seven or eight years of the mission's work were stored at the compound at Babylon at this time, and these, so far as the Orient Gesellschaft was concerned, were as completely lost as if, like some of the Layard antiquities from Nineveh many years before, they had been upset in the river.

That the work was never allowed to lapse for a day, in spite of the fact that every foot of earth moved, so far as the discovery of antiquities was concerned, was for the sole benefit of the Turkish Government Museum at Constantinople, speaks volumes for the devotion of the mission to its unselfish purpose.

Few of the fruits of the dozen years' work had as yet been removed to Constantinople, and these, stowed away in packing cases, were already taxing the capacity of the long lines of the compound's sheds.

Scant reference, save in the most casual way, was made to any of the stored antiquities, nor yet was I encouraged to linger and examine any of the 'finds' of the last few days' work —strange implements, utensils, ornaments and the like—which had been washed and laid out on long tables to dry. This, Dr. Wetzel explained half apologetically, was because only the reports on the first few years' work of the mission had been made public.

"But," he added, "Dr. Koldeway, at our little dinner party tonight in Belshazzar's Feast Hall, will do us the honor of making his first public statement about one of the most puzzling questions upon which we have worked, 'A Scientific Accounting for the Appearance of the Writing on the Wall.' I trust it will compensate in a degree for your having to wait upon the opening of the Babylonian Wing of the Constantinople Museum in order to see the tangible fruits of our work here."

We ended the day with a swim in a still, cool pool of the old Euphrates, and twilight found us, refreshed and expectant, feasting within the very room where, it is recorded, occurred an episode so spectacular and dramatic that—fact or fiction, history or myth—it had become a by-word of the ages. *Poisson Babel* had followed *Potage Nimroud,* and *Pheasant Nabopollassar* had given way to *Prawns de Euphrates à la Ishtar,* when our distinguished host arose and, holding aloft his goblet of *Vin Baal,* proposed a toast to the memory of "His Royal Highness, Belshazzar, King of Babylonia."

The moon had risen as dinner had progressed, and now its level beams, striking through a broken archway, fell full upon the trim, erect figure at the table's head. The howl of a jackal answered our chorused, "His Royal Highness, Belshazzar," and I felt the flick of a bat's wing on my fingers as I lifted my glass to drink the toast. A moment later we had resumed our seats, and the Doctor was speaking from a crumbling dais at the end of the moon shaft. I can, of course, give but a fragmentary outline of the drift of the learned discourse.

After tracing the manner in which he had established, beyond the shadow of a doubt, the fact that this particular structure had been the palace of Belshazzar, and that the room in which we were seated was the festal chamber of the king, Dr. Koldeway launched at once into the heart of his subject:

"The statement that writing appeared on the wall of this room, on the occasion of a great feast which preceded the downfall of Babylonia by but a few days, has come down to us from so many different sources that we have come to accept it as an established fact. It is as definitely substantiated as any other specific happening of so remote a time. Now, the all-important questions to be answered are: How did this writing come to appear where it did? and, Did it really have the meaning which Daniel gave it?

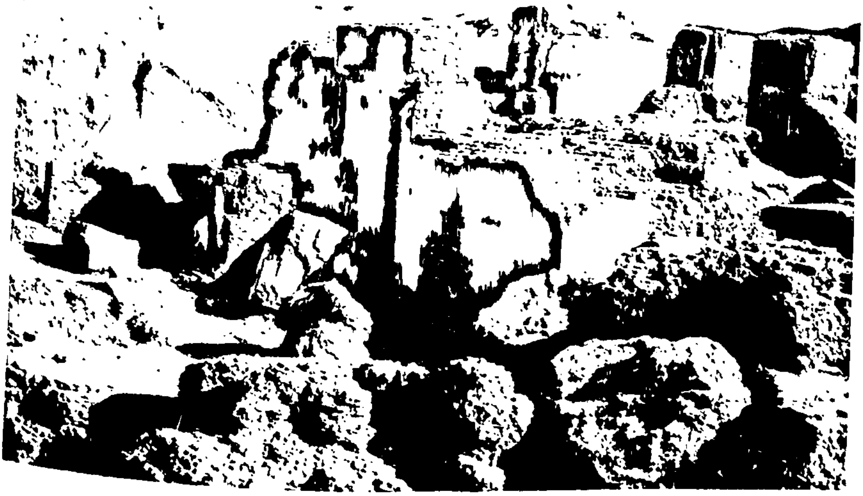
"The Scriptures tell us that, 'There came forth the fingers of a man's hand, and wrote over against the candlestick upon the plaster of the wall . . . and the king saw the part of the hand that wrote.'

"Regarding the Moving Hand, we may consider that the only evidence in favor of that somewhat unusual phenomenon was the testimony of the revelers themselves (Daniel was not present at the time the writing appeared) and it is probable that most of them were in a condition in which moving hands would have been among the least startling of the things they were seeing. As for the words themselves—*Mene, Mene, Tekel, Upharsin*—the only equivalents which the most exhaustive of searches has enabled us to find for them have been the names of certain tools and measures which were employed by Persian builders. We know that Persians were employed in the construction of the Hanging Gardens, and it is reasonable to suppose that they—or others of the same nationality—worked upon the palace of Belshazzar.

"Since it is necessary to account in some way for the appearance of the writing on the wall, and since the unsupported evidence of the feasters is not enough to incline one to the acceptance of its miraculous unrolling from the tip of a moving finger, I am advancing the theory that the words in question were scrawled in an idle moment by one of the Persian decorators, and that they remained unnoticed—or at least unrecorded—until the night of Belshazzar's historic banquet. Have you not seen an intoxicated person suddenly give frenzied attention to some ordinary object, such as the silver cap on his umbrella handle, at which he may have looked a hundred times, unheeding, when sober?

"Thus it was, I am convinced, that the drink-shaken monarch discovered the fateful writing on the wall and demanded an instant interpretation, a task to which, it is not surprising to learn, not even the most erudite of his fellow revelers was equal. When the Prophet Daniel was called, what could be more natural than that he, stanch moralist and shrewd

Excavations at Babylon



The palace of Belshazzar

opportunist, knowing—as all must have known—of the imminent approach of the Medes and the Persians, should take the occasion to read the profligate ruler a stern lecture, tell him that he had been weighed and found wanting, and that his arrogant and wicked city was about to fall into the hands of the invaders?

"It cannot have been long after this that the armies of Cyrus, King of the Persians, cut the Babylonian canals and captured the city. Belshazzar was killed in the fighting, but Daniel, as you know, survived to attain to still greater honors under the new rulers. . . . No, we have not thought it necessary to attempt a 'scientific accounting' of the 'Lion's Den' episode. We have animal tamers of no mean resourcefulness in our own day. I have no doubt some of Hagenbeck's boys could have turned the trick as smartly as did Daniel."

* * *

On the eve of a visitor's departure from Babylon it was the custom to bring the guest book of the current year to his room, set pen, ink and a case of German beer before him, and leave him for the night with the warning that if a page of the book was not covered with an appropriate poem or drawing by morning he would not be allowed to go on his way. Thus I found myself imprisoned on the night of our "Belshazzar's Feast," my captors, however, having granted me permission, by special dispensation, to seek inspiration through conning over the versical "ransoms" of all the years since the mission began its work.

It was midnight when the books, each containing a year's contributions, were brought and stacked upon my table, and the "Phantom of False Morning" had flickered and faded again in the east before I had read through them all and bought my freedom by filling the designated page with a string of wretched jingles.

But what a register of famous names was that little pile of rawhidebound parchment volumes! Lord Curzon, Sir William Willcocks, Baron Oppenheim and Percival Landon all appeared within a score of pages; but it is sad to record that it seemed the invariable rule that the more famous the writer the worse was the verse. Only two or three of the contributions were of more than historic interest, and the lines of one of these were running through my head as I stepped out on the balcony for a breath of fresh air before crawling under my net.

Across the courtyard the white-clad figure of a man was pacing slowly up and down the opposite balcony, pausing at one end of his beat to gaze out vacantly above the moon-silvered pools of the half-emptied river channel, and at the other to regard fixedly the shadow-mottled ruins of the imminent Hanging Gardens and palace of Nebuchadnezzar. How long he had been there I could only guess—possibly for hours—but presently, after one lingering look at the crumbling walls, weariedly, dejectedly, he turned and went into his room.

I did not try to make out which of my hosts it was; but I knew as well as if he had shouted it to the unpitying stars that he was thinking of the rise of the level of the ancient Euphrates with the completion of the Hindia Barrage and of the secrets of the city buried beneath old Babylon which were destined never to be read.

"He is weary with the task Time set," I muttered to myself as I, too, turned and sought my darkened chamber. The phrase repeated itself several times in my thoughts before I recalled that it was from one of the poems I had just been running over in the guest books. Lighting my lamp I turned to and reread the haunting verse—and then again. Unlike the other efforts, it was unsigned and undated, but I knew that it had been written by one who had felt the brooding spell at the end of the desert night and had himself sunk down and wept by the Rivers of Babylon. Here it is:

When each age, weary with the task Time set
Of Empire-building, sinks again to sleep,
Time's kindly hand draws o'er the coverlet

That the tired Titan's slumbers may be deep.
Tier upon tier, palace and banquet hall,
Towers, pinnacles and temples front the sky;
Witness the nations' prowess and their fall—
Life lasts a day; at eventide we die.

CHAPTER XII

THE GRAN SALTO OF THE JUNGLE

Down the Gorges of the Iguazú to South America's Greatest Cataract.

WHEN I chanced to mention to a cynical Britisher of Buenos Aires that it was my plan to penetrate the Brazilian jungles to the Great Falls of the Iguazú, subsequently to float with the currents of the Paraguay, Paraná and Platte to tidewater of the Atlantic, he replied with a facetious grin:

"You will start on a river whose source is as obscure as that of the people along its bank, and finish on an estuary which is as broad across the mouth as the politicians in the capitals of the republics to the north and to the south of it. You will probably never reach the grand Salto of Iguazú, which is said to be the one great cataract of the world worthy of comparison with Niagara and the Victoria Falls of the Zambesi; but even if you accomplish your voyage down the Paraná you will be one of the last white men to get an intimate contact with the old time pampean life as it was unfolded to the early pioneers of Argentina. What with the railway and modern agricultural machinery, the *gaucho* is rapidly being pushed south toward Tierra del Fuego and west toward the Andes. He has already all but passed from the Paraná and the Platte, and you—if you hurry—will be one of the last to find him in that pampean littoral where his big knife and flying *boleadoras* first won him fame. It won't be many years before you'll have to ride half way across the continent to round up the *gaucho;* and then you'll probably find him herding his steers with a Ford. By all means try to come up to him while he is still curling his beard by the river."

* * *

The great Falls of Iguazú are a deal easier to reach today—even to one not having such an airplane as was placed at my disposal for an overnight visit of a year ago—than it was when I first visited South America three decades back. At that time the journey, at certain flood stages of the river, involved a two-hundred-mile detour by oxcart, at an average pace of five miles a day. In the five years preceding my first expedition there had not been a white man within fifty miles of the Gran Salto.

They told an amusing story in Buenos Aires at this time of a young Oxonian who had come out from England with the intention of making a journey to the great Iguazú cataract, in which he had become interested through the accounts of a recently returned member of the Royal Geographical Society. On inquiry at the British Consulate, he was informed that perhaps five thousand pesos might see him through for the trip. Asking what the height of the fall might be, he learned that it was in the vicinity of two hundred feet.

"Only two hundred feet!" he ejaculated in disgust; "why, damn it all, sir, that's twenty-five pesos a foot for only a look, and I can buy frontage on the main street of Belgrano for fifty pesos a foot."

And forthwith he went and bought some city lots with the money which was to have taken him to Iguazú. Before long he was the owner of the leading foreign hotel of Buenos Aires and a partner in a prominent importing house.

Traveling "native" wherever possible, my own jungle and river journeys to the Gran Salto, as well as my subsequent voyage down the Paraná, were made at a cost which would not have represented more than a negligible investment in Buenos Aires real estate of this period. The first stages were in the company of some prospecting rubber concessionaires from Paraguay. The journey through the hardwood forests of Tacarupucu was enlivened by rafting down and across the upper Paraná a half dozen high-spirited, pampas-bred horses, where provision had been made but for that number of quiet little Paraguayan ponies. The latter are trained to lie down in a boat and remain quiet, and, if obdurate, may be sat upon and tied with no great amount of difficulty.

The pampean horses not only refused to enter the boats, but most strenuously resisted all efforts to throw them down and tie their legs. Their subjection cost a day of time, the ribs of one of the packers and more or less cuticle on all the rest of them. Finally they were all secured and we put off down the river, only to have one of the big animals break the lashings of his hind legs in the first half mile and kick the sides and bottom out of the boat in which he was riding. The craft and most of the floatable goods were salvaged, after which, at the imminent risk of his neck, one of the packers dived beneath the floundering horse and cut the bonds of his forelegs in order to free them for swimming.

The liberated brute showed his gratitude by endeavoring to climb over the side of one of the other boats, quickly capsizing it and throwing half a score of men and a completely bound horse into the river. The water had been alive with alligators some moments before, but the commotion was so great that they gave the scene of the disturbance a wide berth and made us no trouble. Securing the horses and towing them ashore by means of *riatas* occupied another day, and the ultimate landing of the animals fifty miles downstream at the mouth of the Iguazú took the best part of a week. Here we found that the trails were too soft for pack animals of any description, and were compelled to leave them behind and resort to Indian bearers.

The Falls of the Iguazú are but a few miles above the point where that river joins the Paraná, but so inconceivably dense is the tropical vegetation that it was not until many years later that a direct road was cut through. I was compelled to make a wide circle to the south over a comparatively dry and open tableland, reaching the river at the Indian village of Gaa, some thirty miles above the cataract. Here I hired a dugout canoe, and the voyage to the Gran Salto was made by casting loose and floating downstream. This is one of the finest stretches of swift-water boating to be found anywhere in the world.

Gaa is situated upon a plateau at an elevation of at least a thousand feet above the falls, and all but the two hundred feet of drop at the great cataract itself is accomplished by the impetuous Iguazú in a series of rapids which surpass those of the Yukon and Columbia for swiftness, and rival the gorges of the Grand Canyon of the Colorado for fantastic witchery of scenic wonder.

Not far below Gaa the river splits into a half dozen or more streams, each of which has tried to outdo the others in the depth to which it can gouge a path into the soft sandstone through which it flows. These streams unite by twos and threes all the way down to the falls, but in the whole distance there is not a single stretch of half a mile where the river flows in a single channel. What makes the trip impossible with any but a most experienced crew of local Indians is that, in almost every instance, only one of the from two to a dozen channels is practicable to navigate.

Once started down the wrong channel, either by faulty pilotage or unskillful handling, neither landing nor turning back is possible, the sheer or overhanging sandstone walls precluding the one as effectively as the swift-flowing, foam-flecked current the other. Nothing remains but to drop on down and trust to luck and the cleverness of the Indians to pull you through. In a few of the side channels this combination may bring you out all right, but in most of them treacherous elbows and whirlpools, with occasional sheer falls of from five to twenty feet, make disaster inevitable. The awkward thing about an upset anywhere in this region of hardwood is that the canoes are, of necessity, hewn out of logs which are heavier than water, and as a consequence start for the bottom any time after they are over three quarters full of water.

An empty powder canister was provided me to use as a life preserver, Manuelo, my head boatman, claiming that he had known of one or two lives having been saved by such means following upsets. For the most part, he admitted, however, that a spill in any part of the gorged section of the Iguazú above the falls meant the loss of all hands. Out of a population of less than five hundred, the river had averaged a toll of over a score each year.

The sandstone of the Ibari Plateau, through which the Iguazú flows, seems to alternate in hard and soft strata, the dip of which is but a few degrees from the perpendicular. The softer strata, being the more susceptible to erosion, have been worn by the washing of centuries to a depth of three and four hundred feet in places. The harder portions have been left standing as walls, which, where the river is running in a number of channels, rise in high isolated islands, some abrupt and sheer-sided and some falling away in terraces like the castellated buttes of the Grand Canyon of the Colorado. Indeed, were the walls of the Canyon of the Iguazú to be denuded of vegetation by a half dozen successive years of drought, the barren red buttresses, terraces and castles would bear a striking resemblance to the fantastic formations of the great Arizona gorge.

As it is, the voyage down the Canyon of the Iguazú is a two-hour dash between walls and through tunnels of solid green. I found these walls tapestried, yards deep, with hangings of the richest verdure, and there were places where, in some inexplicable fashion—probably through the loose ends of creepers having been thrown across narrow gorges in heavy winds—the river was roofed so closely with riotous tropical growth that the glaring blaze which tortured the eyes and blistered the skin in the open stretches was reduced to the somber half-light of an old cathedral. In places creepers—frequently hundreds of feet in length—fell from above into the undulant water, and where they swept across the course of the canoe in loops the Indian in the bow had to cease paddling and part them with swift strokes of his *macheté* to avoid an upset or the decapitation of a passenger.

A boat floating downstream travels at practically the same speed as the current, plus whatever steerageway it is given by the paddles to assist control. One gradually loses the feeling of motion—even though he may be darting down a froth-white chute at twenty miles an hour—and gains the illusion of being at rest between the moving panorama of the double walls, which go sliding past like twin films of a Titanic cinema.

Really to enjoy the canoe run down the Canyon of the Iguazú, one should have taken it often enough to get over the apprehension of the venture. With all fears at rest, and well assured of the ability of your Indians to put you down dry at the head of the Gran Salto, nothing could be more exhilarating than that thirty-mile dash between those walls of living green, now in the scintillant, sun-shot reaches of the open river, now in a fragrant tunnel of tropical verdure, with the waters coiling in green and white beneath the keel, the flower-gay garlands of creepers swaying above, and the air vibrant with the shrill cries of macaws, parakeets, tuyuyus and a hundred other varieties of gaudily feathered denizens of the air which have been disturbed by the passage of your canoe.

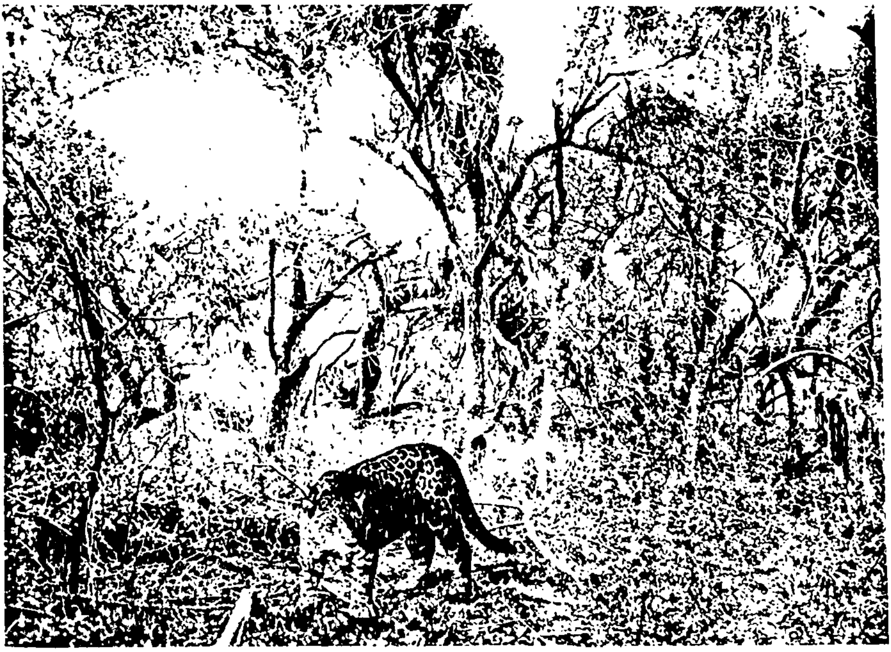
I must confess that my recollections of all I saw and heard in the run down the savage rapids of the Canyon of the Iguazú are of the vaguest, my most clearly etched memory having to do with a rusty old blasting-powder canister which was looped to my elbow to secure it in the event of an upset and whose corner chafed a long welt of red on my closely clasping arm.

The last ten miles were especially trying, for the wind drew directly upstream, and during the passage of all that distance the thunderous roar of the great fall came booming to my ears with ominous insistence. Every minute the boiling current seemed flowing faster and faster, and around every bend I found myself looking for the yawning gulf toward the depths of which I sensed I was irretrievably being drawn.

After twenty minues of this the sudden tingle of drift spray on the face struck as an added lash to nerves which were already ripped into rags and tatters. For the next few minutes I gripped the sides of the canoe and peered anxiously into the gray sifting ahead, trying vainly to read assurance in the set faces of the struggling paddlers. Then we were shot like a shuttle down a serpentine riffle to a placid, mile-wide, lake-like stretch of river which extended its mirrored surface right on to the brink of El Gran Salto. Here a child could have handled the dugout with safety, and the landing was made without trouble on a beach of hard shingle which sloped gently up to the camping place in a grove of spreading *colorado quebrachos.* This I seem to recall as the only place where a boat could approach the bank with safety between Gaa and the cataract.

My *mestizo* head boatman assured me that the Italian geographer whom he had brought down to the Gran Salto six years previously had cut what he had estimated as sixty kilometers of jungle path in reaching the various vantages from which he took photographs designed to be fitted into a comprehensive panorama. He had camped for six weeks in the immediate vicinity, with a base where he had landed at the brink of the falls. A kilometer a day—two thirds of a mile—had been good progress in slicing out the bush tracks with *machetés,* with the hungry jungle eating them up almost as fast as completed. The first paths slashed out were grown solid again before the party left, and a few years later he could not even find a trace of the cutting scars.

Manuelo estimated that there must have been several hundred large glass photographic plates which went to the bottom of the Iguazú when a canoe capsized at the start of the run down to the Paraná. The Italian, clasping one of the precious cases in an endeavor to save it, had disappeared with the box at the edge of a big back-sweeping eddy. He was unconscious when he bobbed to the surface *"un medio minuto"* later, but came round when the water was drained out of him by rolling over the round bottom of a canoe. One Indian was drowned in the upset and another failed to come up from a dive made



The jaguar ready to charge

Our camp by the Yguazu

in an attempt to win the five hundred pesos offered by the Italian for the recovery of either one of the lost boxes of plates.

Manuelo was under the impression that the unfortunate scientist's diaries and records were in a lighter *malleta* or saddlebag, which had floated to the upper end of the eddy and been salvaged. He doubted very much if they had ever been published, for a copy had been promised him in such event, and none had ever come. He was inclined to believe that the *"muy sympatico caballero,"* for whom he appeared to have the greatest admiration and affection, had died of the fever. There had come word that he had been very ill in the hospital at Asunción.

I could never make quite sure of the identity of the courageous scientist who made what must have been the most thorough study of the Great Jungle Cataract of the Iguazú attempted up to the time when the falls became accessible to the airplane and the autobus. None of the markings on the rotting fragments of cases in his camp were sufficiently legible to verify a name which his guide pronounced "Peekasso." This may well have been the Italian Picasso, but subsequent inquiries which I made in Asunción, Buenos Aires and (after a lapse of many years) in Rome and Milan brought no information of an explorer by that name who had worked in South America.

Unprepared to make a lengthy stay, and, with only a kodak and a half dozen rolls of films already showing the effects of tropical deterioration, there was nothing to justify in my own case any extended campaign of trail-cutting to thread the labyrinths of the jungle islands breaking up the two and a half miles of primal chaos where the Gran Salto makes its principal descents. Getting anywhere, of course, involved either *macheté* work or rafting; and, because the latter was calculated to get results the more readily, we paddled and poled rather more than we slashed.

The best general view was plainly to be had from the middle of the great basin below, where the waters of many broken descents reassemble for the comparatively decent and orderly progress down to the Paraná and oblivion. Although the river here is not nearly so turbulent as in the corresponding place at Niagara, it was extremely ticklish work navigating with a *balsa* raft. Photographing from the pool itself proved quite impracticable on account of the mist and spray. The latter, principally because of the strong westerly winds which sweep across this region, are carried much farther than at Niagara. The vegetation for miles to leeward showed in its velvetiness of verdure the effects of the gentle but incessant soaking from the wafted "water-smoke."

The moss on the ground was waist-deep in places, and the growth of it on young trees was often thicker than the trunks themselves. Everything, of course, was dripping with moisture, and there was little of the time that I spent outside of my tent that I myself was not in the same condition. Both day and night, however, the air was soft and warm, and I experienced no ill effects from the excessive moisture. The cataract section, strangely, is almost free from malaria, due in all probability to the fact that mosquitoes have difficulty in living and breeding in the constant spray. Nor is the moisture-charged atmosphere by any means so oppressive as one would expect within twenty-five degrees of the equator.

Of the great cataract itself, the most I felt that I had gained at the end of a week of precarious fording, clambering and cutting was a series of peepholes which gave only the most fragmentary idea of the grand ensemble. I snatched transient glimpses of just about every kind of waterfalls I had ever seen or read about—chutes, cascades and cataracts, Bridal Veils, Minnehahas, Kaieteurs, Victorias and Niagaras.*

Except for the slightly shifting area immunized by the prophylactic shower of the blown mists of the falls, the Iguazú region had the reputation of being one of the snakiest sections of South America. As usual, I found the reptile menace considerably exaggerated. While it was undeniable that a good many species of serpent, notable either for their size or the effects of their venom, were native to this neck of the tropics, they were seldom seen and more rarely figured in attacks. My Indians worked barefooted in cutting through the jungle, claiming that the noise of their scuffling and slashing was enough to send the worst of the *culebras* scurrying out of the way.

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* Of how the Gran Salto of the Iguazú appears today to the traveler who may reach it by river steamer or airplane, I have written in *Discovering South America.*

The one snake for which they seemed to have both fear and respect was the diminutive *ñandurie.* The Indians made a point of calling me on the two occasions when these vengeful little spitfires were chanced upon, and seemed glad to leave the dispatching of them to a revolver rather than to follow their usual practice with *cascabels* and other poisonous snakes of closing in for a bit of fancy *macheté* play.

At a short distance the *ñandurie* looks not unlike a large earthworm, and its greenish-gray color has the protective camouflage which makes it barely distinguishable from the jungle foliage. Instead of following the almost invariable serpentine custom of retreating at the first sound, it starts up erect from its middle, darts its head rapidly forward and back and glides to instant attack. In this forthright frontal assault it is in direct contrast to the gigantic but wily bushmaster, with which I was to have intimate acquaintance on the Amazon and the Potaro. This veritable "Terror of the Jungle" usually sneaks off through the bush and glides up from behind to attack a foe whose approach it has heard.

Except in finding its way into one's bedclothes, the *ñandurie* is of negligible danger to a well-shod white man. The Indians, however, appear to hold it in greater dread than all the other snakes of the Iguazú region, claiming its bite to be invariably fatal within ten hours.

Boas were very numerous about the falls. We saw them most frequently lying along the river banks when we were boating, but occasionally slashed into a loop of one when we were cutting trails. Considering their size, they were singularly inoffensive. The Indians held them in the greatest contempt, declaring that the stab of a knife would make one relinquish its hold of a man about whom it had thrown its coils. The men pelted them with sticks and stones at every encounter, and the flight of the terrified reptile through the jungle was as noisy as that of a stampede of cattle.

* * *

But the most memorable experience of my early Iguazú visit was not that of boating down through the gorges to the brink of the great cataract, nor yet that of jumping from the canoe upon a supposed dead log which turned out to be a very live alligator. Not even was it the side-stepping of a deadly-darting little *ñandurie* which furnished the premier thrill. That honor was reserved for a great irascible spotted cat, which refused to take good-naturedly my innocent boyish attempt to snap its photograph when we met on a shadowed jungle path the day previous to our departure.

In my previous experiences with a number of the several varieties of the cat tribe, I had found that there was almost invariably a moment following that in which one of them was surprised by a man in which the animal remained perfectly motionless, principally, no doubt, in the hope of escaping observation. The first move is usually up to the man, and if he will stand still, or only move slowly and quietly, the beast may often be held for a minute or two before it takes alarm and breaks away in flight. I say "flight," because, unless wounded or famished with hunger, and frequently even then, the feline's action takes the form of retreat.

My approach over the damp earth of a trail we had cut a few days before, to the brink of the falls, had been almost noiseless, and I doubt very much if that huge *tigre*—the first jaguar I had ever seen out of a zoo—was aware of my presence an instant before I brought up with a jerk on discovering his. My automatic pistol was my first thought, and, this once in hand, my next concern—doubtless suggested by the statuesque pose of my scowling *vis-à-vis*—was my camera. This was a small, short-focus, folding affair which, beyond extending the bellows, needed no adjustment whatever.

The path and the encompassing jungle, though all in shadow so far as direct sunlight was concerned, were pervaded by that powerfully actinic reflected light which I knew would render it possible to make a successful instantaneous exposure even with the comparatively slow film of those ancient of days. The distance was about twenty-five feet.

The click of the spring which accompanied the running out of the bellows caused my subject to drop to a threatening crouch. This action deflected my attention from the camera to the pistol and left me in apprehensive doubt for eight or ten seconds as to whether or not he was going to fly, and, if so, whether at me or from me. The idea also suggested itself to me that perhaps I had best anticipate him in the flying act, in which event my line of flight was already predetermined. But while, nervously fingering the trigger of my pistol, I wavered in resolve, the tenseness gradually left the sinewy figure before me and it slowly resumed its standing position, though an angrily switching tail and back-laid ears indicated that distrust and suspicion were by no means dispelled.

With the slowest of movements I again transferred the camera to my right hand, centered the motionless yellow-and-black figure in the finder and, with pistol still held ready, used the thumb of my left hand to press the button. On the quivering ears of that nervous cat the click of the shutter must have fallen like the discharge of a rifle, for he instantly bolted into ignominious flight. Thus assured that I was not the worst frightened individual present, my faltering courage came back with a rush, my twitching forefinger closed down on the trigger, and I fired three bullets after the fleeting form of my late subject.

The shots were discharged with the pistol still in my left hand and no pretense whatever in the matter of aim, which may account in a measure for the fact that a subsequent post-mortem failed to show where any of them took effect. They were enough, however, to lead the very capricious beast at whom they were directed into the belief that there was a matter behind him that required his prompt attention. Wheeling about as though set on a pivot, he launched his lithe body into the air. He had already made one stupendous leap in the direction of the spot he had instinctively diagnosed as the seat of the trouble, and was just rising for another when, more carefully than before—though from a hand that I daresay shook no less than when it was holding the camera—I discharged in quick succession the three cartridges which still remained in the clip.

One of the bullets went wild, but either of the two "soft-noses" that drove mushrooming into the breast of the charging animal would have been enough ultimately to have eliminated him as a serious trouble factor. However, being a cat, he died slowly, and the energetic mass of fur, jaws, paws and claws that came plumping down at my feet had more than a little life left in it, the immediate necessity for letting out which, as a precautionary measure, involved some indiscriminate slashing with my big *macheté* that almost ruined what was said to have been the largest jaguar hide brought down to Buenos Aires for several years.

* * *

After portaging our canoe round the cataract, we made the run down to the Paraná in less than an hour. The current ran quite as swiftly as in all but the worst water of the gorges above, but the channel was deep and comparatively straight, offering no navigational difficulties. From the junction the Indians paddled on down to the Iassy, and then ascended that sluggish stream for fifty miles to a point from which the crossing of the plateau to Gaa could be made by oxcart. I fared on in a native dugout to the mouth of the Paraguay to make arrangements for my long float down the Paraná to the pampas, the Platte and the Atlantic.

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CHAPTER XIII

DOWN THE PARANÁ TO THE PAMPAS

Tramps Stealing a Ride on a Floating Island, Gaucho *Dances and Knife-Fights, a Polo Tournament, and a Scotch Pheasant Shoot, Mark a Voyage from the Paraguayan Jungles to the Mouth of the Rio de la Plata.*

I HAD chummed up with strange "stream-mates" in navigating various and sundry of the greater and lesser rivers of the world, but for fantastic picturesqueness those of the bizarre craft which I pulled up alongside a few days after I started to drift down the Paraná to the pampas never had a near rival. Noting that a small green island breaking the surface of the flood-swollen river a short distance ahead appeared to be densely populated with a motley assemblage of excited inhabitants, I ordered my Paraguayans to ease off on their paddling and make a landing among the gesticulating bob of beach combers who were crowding down to the water's edge in vociferous welcome.

No sooner had my big scow lost steerageway, however, than we ceased to close the intervening gap. Presently, indeed, when an upriver wind freshened to hold us back, the intervening distance tended to increase. That hundred-yards-in-diameter patch of nodding pampas plumes was actually under way itself—was a veritable floating island, in fact. Not until renewed paddling had brought us within hail of the highly vocal Reception Committee was the apparent phenomenon accounted for. The first explanations—in vile Rio de la Plata Spanish—left a good deal to be cleared up, but complete elucidation came in a familiar flood of Cockney billingsgate.

"Yu see, mytey," shouted a bewhiskered wader whose "within-sound-of-Bow-Bells" origin could not be concealed by a billowing *poncho* and baggy pampas pants, "we's all *attorantys,* which is River Playte lingo fer tramps. We wuz suckin' our *matty* an' cookin' our *carny* on th' bank las' nite, w'en th' bally floodin' river cuts in behint us—and 'ere we are. We knows yu ain't got room fer any uv us in yure bit o' a packet, but if you'll jest stand by fer a while case we starts brakin' up w'en we grounds, it may help tu save th' lives uv sum good men an' true. I know'd soon as I clapt eyes on yu, mytey, that yu wuz a runaw'y siyler, jest like mesel. Ope yer pipes tu this un, mytey!"

And he opened his own lusty pipes to lead in a sailors' chantey of the period which declared that:

"Bully good ashore the fare is
  Roun' the port o' Buenos Aires."

And asserverated the well-known fact that:

"Extradishun does not go
  To the port o' Cal-ya-o."

Several other verses, in which a bevy of English-chanting Scandinavians joined, were hardly fit to print even had there been a press on the itinerant island of itinerants.

From one runaway sailor to another such an SOS could not be lightly disregarded. At imminent risk of being swamped by the human overflow in the event of a panic, I agreed to stand by until the good ship *Pampas Plumes* grounded, made port or resolved into its component parts. But as from one sailor to others of his kind, I suggested that the sensible thing to do was to make a raft of the driftwood which carpeted the surface of the flood-swollen river and have it tethered handy to flee to in case of emergency. Hardly had my crew set to work chivvying up floating logs than a huge abandoned scow was sighted, lodged among the willows of an overflowed area, and the rescue problem was solved.

So attached had the castaways become to their spacious and comfortable floating island in the interim, however, that when the vote was put as to immediate abandonment, the showing of hands—or rather of brandished knives—was overwhelmingly in favor of sticking to it as long as it coasted. A half dozen driftwood fires were soon reduced to glowing embers, and from the racks above the coals the fragrant aroma of *carne asado* floated out over the waters to convince me that I could drift much farther without faring as well on the score of dinner. The sizable *bota* of *caña* or sugar-cane rum that I was able to contribute from my stores assured me of a hearty welcome.

Reclining on the grass and sucking at the constantly replenished gourds of *yerba maté* or Paraguayan tea, after we had picked clean the bones of a couple of roasted sheep, the talk turned to the nearing pampas, the *gauchos,* and their feats of horse-mastery and knifesmanship. Several of the *atorantés* claimed to have worked with the plains' cowboys and to be possessed of all the skill of veritable *gauchos* in the handling of knives or the subduing of vicious *caballos* and *muchachas.* They regretted that there were no horses or girls on the island with which they could demonstrate their cleverness in riding or dancing, but they all of them had knives on their hips, and if the voyaging *caballero* would enjoy watching the play of masters with the *facon grande,* they would be only too ready to oblige. He must understand that it was all in fun, and that if anyone was hurt it would be quite by accident.

The knife-play proved rather awkward in comparison with the finished *facon* fighting I was shortly to see on the pampas, but because one of the contestants in the opening bout—either by accident or intention—allowed his great blade to become unsheathed, we were treated to a bath of blood right at the outset. Instantly a score of other blades flashed in the firelight, and only the sensible insistence of the Cockney that I should cast off with my canoe and take the wounded man to a bank-side *estancia* for medical attention prevented a general fight in what could not but have proved uncomfortably restricted quarters.

That neither the strange floating island nor its population was completely obliterated, either that night or for some days following, was evident from an item which I saw later in a Montevideo paper. The crumbling fragment of a pampas-grass island had grounded near Rosario, the dispatch said, and a number of European harvest laborers who had been floating down river on it for many days had been arrested after a knife-fight on the water front. A half dozen of the men, suspected of being deserting sailors from frozen-meat freighters, had been turned over to their respective consuls.

It was a relief anyhow, I reflected, not to have been rounded up with that bunch of runaway sailors whom I had joined for *carne asado* and *yerba maté* on their floating island in the upper Paraná.

Delivering my belly-ripped river rat to an unexpectedly considerate country *pueblo* surgeon, I camped on the almost flooded bank that night and pushed off the following morning in the swirling yellow current that was stained with the run-off from the far-away jungles of Matto Grosso. The *mayor domo* of the *estancia* where I landed, and bought a lamb for lunch, said that the last floating island which had grounded thereabouts had as passengers a tapir, two boas, four alligators and a young *tigre.* He said he would much prefer to have traveled on that island than on one with a score of knife-throwing *atorantés.*

* * *

Aided by a favoring wind which enabled us to rig a rough sail on the scow, three or four days brought us to reaches of the broadening river where low banks and a flat western horizon told at last that the illimitable pampas were in sight. It was still hardly the dead-flat plain which I was subsequently to navigate with compass when I fared across it on horseback to the western wall of the Cordillera, but it was unmistakably a land of great cattle and sheep herds, of the *gaucho* and his *facon grande,* of the Indian and his *bolas,* of the averredly head-hiding *avestruz* or plains ostrich.

When an eddy swept my scow back into the current at my first attempt to land at a cattle camp, it was a bunch of ready *gauchos* who smothered the drifting old craft in *riatas* and brought it smartly to bank. They it was who first taught me how to carve my *carne asado* from the still roasting side of bullock, how to fill my own gourd of *maté con leche,* how to parry the stomachward thrust of the questing point of the *facon grande,* how to lead off in the rhythmic measures of the *gato* and the *jota,* how, in short, to slip into the passing visitor's niche of the fast-fading old life of the pampas.

After roasting a sheep for my crew and entertaining us with a bit of knife-play round the fire, my solicitous hosts hooked up a dozen horses to a big-wheeled cart and drove an hour cross-country to an *estancia* where there had been a wedding and so, of course, would be a dance. Except behind his ready blade, the *gaucho* is, as I was to have conclusive visual evidence in the days and nights that followed, at his best at a *baile.* The knife, naturally, went with him to a dance, as everywhere else, and he frequently got behind it; but, as it was a point of honor not to fight under a friend's roof, these little side diversions rarely marred the pleasure of the festival proper. If there was a dispute, and two men went out and only one returned, it was also a point of pampean etiquette, scrupulously observed by both hosts and guests, to make no allusion to the apparent lack of interest, on the part of the missing man, in the subsequent proceedings of the evening.

These *campo bailes,* which punctuated with song and dance my whole river-progress along the easterly rim of the pampas, were more or less elaborate affairs, according to the pretensions of the houses holding them. As a general rule, I found them by far the best fun in the most primitive surroundings.

On entering the home where the dance was being held, you were ushered at once to the *cocinera* or kitchen, where you found the rest of the guests sitting round drinking *maté.* You shook hands with the head of the family, nodded to the rest and took your place in the ring about the *maté* pot to await developments. If there was a chair in the house, it was offered you in deference to the *distinguido* rank you were supposed to occupy in the world of affairs, as outlined by your *gaucho* friends and sponsors in soliciting your invitations. If there was no conventional *silla,* you got the broadest and smoothest horse skull to sit upon, or, if you preferred, a folded *poncho.*

The girls present, you observed, were robustly developed, straight-backed young persons, who carried themselves with the easy grace of lady lions and met your eyes, if with less insolence, with all the assurance of the hothouse beauties of the Buenos Aires *avenidas.* They were all garbed in gowns that covered them effacingly from shoulder to shoe top. The men, of course, were of the type of your *gaucho* friends, and brave in all the splendor of their best *ponchos, chiripas* and *tiradors.* The *chiripa* is like a *poncho* without a hole in it, and performs about the same service for the legs as the latter does for the shoulders.

All wore loose half-top boots, gaudy handkerchiefs about the neck, broad-brimmed *sombreros* and, crowning feature of all, huge foot-wide belts called *tiradors.* One of these fantastic cinches might have anywhere from four to a dozen pockets or bags sewed into it, as well as a sheath for a knife and a holster for a revolver. The *tirador* was very useful as a carry-all, but its principal ultility arose in the protection from knife-thrusts afforded the abdomen by its great width and thickness. Those worn on festal occasions were often decorated with embroidery and silver work.

Dancing was begun on the earthen floor of the kitchen, the two most popular numbers being *el gato* and *la jota.* In the *gato* you stepped out to the tinkle of a guitar, the musician picking away for five minutes or more at a kind of monotonous "strumpity-strump" tune, from which he finally broke into a song. When the vocal accompaniment started you had, according to rules, to stop dancing and salute your partner with an appropriate verse of poetry. She, in turn, had to counter with a similar verse, and then, the singing being over, you swung her off again to the "strumpity-strump" air.

I became considerably confused in my opening steps, but "Hot Time!" and "Georgia Camp Meeting!" which I bellowed as "appropriate responses," were flatteringly received by all hands.

The *jota* struck me as something of a cross between a Highland Fling and a Spanish *fandango*. Dancing it, you and your partner faced without touching each other, did a sort of double shuffle with your feet, snapped your fingers above your heads in imitations of castanets, and all the time gazed fixedly into one another's eyes. This last was the principal rule of the game, and if you disregarded it and let your questing orbs wander for an instant to where another *muchacha* was dancing, your partner stopped work immediately, gave her shoulders a shrug and her head a toss and went back to her horse-skull stool in what must have been pretty near the original of the "sit-down strike." This "making the eyes behave" was a hard thing for a river-voyaging novice to do, and failure to maintain the proper technique had quite a bit to do with marring my initial *jota*.

El gato, the *gaucho* dance from which the *tango* was subsequently evolved, was rather easier to pick up than *la jota*. All the dancing you had to do was a kind of rhythmic surging to and fro, like the action of a couple too fat to swing around each other in a waltz. You were also permitted to put your protecting arm around the girl—a prerogative, however, which, if you were well advised, you exercised only in the most brotherly manner. Otherwise you always stood in danger of being favored with an invitation from a jealous sweetheart to accompany him off into the moonlight to fight for the hand and heart of the bouncing damsel, to both of which his pig head has made him believe you aspired. In such an event it was, of course, a hundred to one that nothing but the active intervention of your *gaucho* sponsors could save you from being the missing man of whose lack of further interest in the *baile* it was etiquette for neither the host nor the guests to take notice.

A pampas *baile* lasted from whenever it got under swing to something after sunrise the next morning. You had supper about midnight and breakfast along toward daylight. Both consisted principally of a hot stew of rice and mutton called a *gisa.* Men and women were served separately, though for what reason I was never able to learn. Between dances you sucked up *yerba maté* through a pewter tube called a *bombilla* and drank *caña,* a fiery rum distilled from sugar cane. There was no promenading with your partner under the silver light of the big plains moon. *Caña,* as I was well warned in advance, was a nectar to dabble with discreetly. It had the treacherous trick of swooping down upon the faculties of the drinker with all the suddenness and fury of a delayed charge of dynamite before he realized that it was stimulating anything but his pulse and imagination.

By the time the rising sun sat upon the edge of the pampas and signaled the beginning of a new day, every one was pretty well tired out and run down, and as you rode off in your high-wheeled cart and turned to wave *Adios!* to the line of drawn, white faces blinking out against the glare of dawn, you wondered what necromancy had been practiced to have given you so happy a night in the company of such a queer-looking lot of people. Merely the hours and the alcohol, of course; one lived to be oppressed by the same feeling in Mayfair and Palm Beach.

It was my outspoken admiration of the way in which our great pampean chariot was tooled across the pools and gullies of the flooded plain on the way back to the river from my first all-night *gaucho baile* that was responsible for my becoming Guest of Honor on that "Ride of Rides." I had ordered my crew to have the scow ready to push off immediately on my return to the cattle camp by the flooded Paraná. This was quite all right so far as the boat was concerned, assented my genial hosts, but the craft's distinguished master must take his departure in true pampas style. Let the *buque* push off, *como no?* but its distinguished and *muy sympatico* owner must remain for a *gran desayuno* of tender young steer on the bank, and then pursue his barge across the great plain in a *carta grande* worthy of his high estate. A cart with wheels *quince pies* in height, and *caballos—diez, veinte, treinta*—all the horses on the pampas if necessary.

Plausible as it sounded in the clear air of the morning after, I was still capable of realizing that there was likely to be many a slip twixt the master and the ship in pursuing a runaway boat down the river, even in a cart with wheels fifteen feet high and drawn by ten, twenty, thirty—all the horses of the pampas. But since there was no denying those impetuous *gauchos,* I acquiesced with the best grace possible, pushed my scow off into the Paraná with instructions to watch for a bounding fifteen-foot-wheeled cart scheduled to appear on its starboard beam some time during the day, and sat down to suck a gourd of *maté con leche* while the tender young steer was grilled to delectable *carne asado.*

With the sides of roasting bullock—like the head of the hero who was Master of his Fate—"still bloody but unbowed" at noonday, I induced my amiable friends to join me in gnawing it a bit underdone and turn their attention to getting the pursuing cart under way. From that moment the brave fellows, for all the time lost over the *botas* of *caña* during the morning, were whole-heartedly on the job. Two spans of rangy pampean steeds were hooked up abreast to the tongue of the lumbering vehicle, with a second four, also in harness, as immediate reserves. All further additions were to be in nature of led or ridden horses, attached by a long rope to the pole. These latter were strung out in pairs of a led and ridden horse each. After a half dozen dancing animals had shown a disinclination to allow me to sit on the wool pads which served as their saddles, the driver found me a place in the cart.

Our get-away, to the cracking of whips and pistols, was as spectacular as even a *gaucho's* heart could desire. The only

Fording a deep slough above the Yguazu Falls

Gauchos cutting up beef

thing wrong with it was that the horses bolted for Paraguay instead of Uruguay—up-river instead of down. When it sank home to the pilot that his course was even as that of the current of the Paraná, he never lost direction—as least for such periods as he was in sight of the river. In spite of the fact that the earth was slippery from the night's showers, the speed of the cart was astonishing. There was a plentitude of jolt from the roughness of the flooded ground and the landscape danced before my eyes in a dizzy blur.

As the terrain became more broken additional horses were attached by pairs and fours. The advantage of the "open order" arrangement became apparent at the first gully, for there, though some of the horses were belly-deep in mud, with others pawing helplessly against a sheer cut-bank, thanks to the extreme length of the formation there was always a sufficient number of animals on firm ground to pull everything clear. Over and through, but never around, small *barrancas* and sink holes the cart rushed like a bull at a barrier, finally to bring up, in crossing a heavily wooded arroyo, with the wheels wedged and clogged in a mixture composed of about equal parts of yellow clay and storm-felled tree trunks.

This is the emergency for which the driver was created. With eyes that glowed with joy born of an absolute knowledge of ability to triumph over the situation, he leaped upon his seat and called—not, as I expected, for axes and shovels—for more horses.

The pampean driver, as was by now becoming clear to me, used horses about as his *gaucho* friends used *caña* rum or *aguardiente*. If one four didn't seem to produce the effect he desired, he added another four, and then four more, and so on *ad infinitum*. But whereas there was usually some outside limit to the number of pulls at the rum *bota* necessary to produce a given effect, there was apparently no point beyond which the pampean driver's thirst for horses might not lead him.

Hard on the driver's call for help, the last of the reserves were driven or ridden in, more rope and chain brought out, and every animal—including those of several stray *gauchos* attracted to the spot by the commotion—directly or indirectly attached to the cart. Then the *bota* of *caña* was passed around and the real show began.

Some of the ropes ran back to the axles, some to the brake and some even to the tires of the wheels. Some of the horses were pulling at right angles to the line of advance and almost directly against each other. No two pampean cayuses are of the same mind for more than a few seconds at a time, and, considering the number of them engaged in the extrication operation, it was a matter of the greatest wonder that the cart did not undergo sudden disintegration like the "one-hoss shay." The quivers and shivers and demi-semi-quivers that ran through its stout frame as it slowly oozed through the obstruction in its path was comparable, in my own experience, only to the combined latitudinal, longitudinal and circular action that run riot in the body of a Marquesienne dancer in the throes of a *hula.*

The whole savage operation strongly suggested the medieval torture of tearing a man to pieces by connecting up a horse to each extremity and galloping them to the four points of the compass. Being apparently built to withstand just such treatment, the great cart finally popped out of the obstruction unharmed, and, after the hamper had been cut away and everything made snug and shipshape again, resumed the uneven but not uneventful tenor of its pursuit. The cart-chase of my boat was at times uncomfortable but never monotonous.

Coming out upon a somewhat higher area, which had been slightly above the flood level, a couple of hours over hard, smooth going at a gallop brought us to a broad overflow across which a large scow was poling its painful way. Assuming that it was my own craft, in spite of the absence of the agreed-upon recognition signals, my forthright conductors decided to cut the Gordian Knot by heading their well-tried deep-mud-going cart straight out to the rescue. The horses were swimming and the great wheels hub-deep at times, but they reached the side of the scow-in-distress, only to discover that its crew and passengers were friends from a neighboring *estancia.* That led to the emptying of all the *botas* of *caña* that either craft had left, followed by a long, slow towing job through soft mud.

With the addition of another cart and a score or more horses to the pursuit, we got under way again with the loss of two of the last three hours of daylight. That was just enough to take us at a thundering gallop to where a curl of blue smoke marked the point at which some river voyagers had landed to roast a sheep and camp for the night. The boat under the crumbling bank proved to be my own scow. Only by yielding to my new-found friends' importunities and going back to their *estancia* for a night under a roof, with a dance to the music of a real piano, did I induce them to detail a guard to help my rather demoralized crew stand watch by the flood-threatened bank. Pampean hospitality, delightful as it was, had its drawbacks from the outset.

The pampas of the time of my Paraná voyage, crude and primitive as was much of the life I touched along the outer fringes, were still not the pampas of the pioneers. In those early days the only pursuits were pastoral; now agricultural had taken the lead, with frequent evidences observable of that industrial development which was to fringe the navigable reaches of the river with some of the world's greatest *frigorificos* or packing plants, from which Argentine beef and mutton is shipped to the ends of the Seven Seas.

Formerly, master and man lived alike—both in mud huts and on a diet of *carne asado, galletas* and *yerba maté.* As I was having daily evidence, these were now for the *peons* and *gauchos,* while the *patrone* divided his time between the luxurious *estancia* house, where he lived like a medieval baron, and Buenos Aires, Paris or the Riviera. Probably nowhere else in the modern world has there been so great a gulf between the modes of living of the highest and the lowest. Rarely have I seen such lavishly run establishments as those of these land-kings of the pampas, and nowhere among Caucasians have I seen such primitive living as among the *gauchos* of these cattle camps which welcomed me along the Paraná.

It was an interesting and novel experience to sit with the knees under mahogany and sip French wine from a glass of Mauza crystal one day, and the next to hunch up on a horse-skull stool and suck *maté* through a *bombilla* that had gone the round of a dozen other mouths before it came to yours; or perhaps to have English lamb chops and French peas for eleven o'clock breakfast, and for five o'clock dinner a hunk of smoky, greasy *carne asado,* roasted on a steel spike in the midst of an open fire of dry cattle dung and eaten by holding in the hands and rending with the teeth.

As was made clear to me from first landing at a river camp, the pampas cowboy was a past master of the art of using his omnipresent *facon grande.* One frequently heard it said of a *gaucho* that he was born with a knife in his hand, and I can recall repeatedly seeing babies scarcely out of their mother's arms playing with knives half as long as their bodies. To a *gaucho* his great blade was weapon, instrument, implement and utensil, and things another man would have needed a score or more of contrivances to aid him in performing, he accomplished with the *facon* alone.

As I have intimated, the staple article of diet on the pampas at this period was *carne asado.* This was usually a leg of mutton that had been scorched to a cinder on the outside and left raw in the middle—the common consequence of open-fire barbecue roasting in any latitude. One of the first duties of a *gaucho's* knife was to cut off his hunk of *carne.* Things went all right as long as he cut off only his own share, but if he amputated a bit of another man's allowance there was frequently an argument. The sequel of one of these little "pound of flesh" disputes was always worth landing through the mud to see, if for no other reason than the consummate display of the fine points of *facon*-carving that inevitably followed. No one seemed ever to think of interfering, and there was invariably a pronounced case of vivisection left over as a souvenir.

Cutting affrays were frequent even in Buenos Aires in those days, but a *facon* in the hands of the huskiest Paseo de Colon peon was a meat axe to a rapier compared to the same lethal weapon in the fist of a *gaucho* of the Pampas. Though a genuine, dead-in-earnest fight to a finish between two of these knife experts was not to be encountered at every camp at which I landed, frequently night after night—in fact it was their principal diversion when work was over—I watched them pair off and fight one another to a standstill with all the fury of the real thing, except that the knives remained sheathed in order to prevent serious injury.

Whether the bout was friendly or for blood, the method of procedure was much the same. The combatants faced each other with knives in right hands and closely folded *ponchos* thrown over left forearms. Each man kept the point of his weapon constantly in motion in order to deceive his opponent as to the exact moment he was going to strike. The parry of a thrust was similar to that in rapier play; but the thrust itself was more often downward than horizontal or upward, for reasons I will endeavor to make clear presently.

If a thrust failed to be parried by the knife the folded *poncho* was brought into play as a shield, for which it served more than indifferently well. The *gaucho* prized his *poncho* second only to his knife, and he would no sooner think of parting with one than the other. And as he valued his great blade more highly for every adversary it had killed or sliced, so the more store he set by his *poncho* for every time it had saved him from death or disability. But whereas a *facon* had ordinarily little to show for the fights it had been in, the woolly shoulder blanket rarely came unscathed from a mix-up; hence it was that, as a *gaucho* would rarely sew up a knife slash or a bullet hole in a *poncho,* nor discard it while there was enough unbroken warp and woof left to hold it together, the cloaks of some of the belligerent old swashbucklers that one met would put a historic battle flag to shame on the score of honorable scars or rags and tatters.

There was no etiquette regarding above- and below-the-belt thrusts in knife play on the pampas; in fact, of the two, the latter was the more popular—with the giver I mean, of course. The consequences of a below-the-belt cut are not pleasant to contemplate, but by the cold-blooded criterion of effectiveness it is decidedly the best stroke in the game. It is very easy to speak of stabbing a man to the heart, but actually to do it —particularly with a broad-bladed knife, or anything, in fact, but a thin stiletto or rapier—is quite a different matter. The ribs are placed where and as they are as an armor to protect the heart and lungs. Your real knife man—I mean the man who fights for his life with his knife, unhampered by convention or tradition—recognizes this fact; hence it is that the *gaucho* thrusts downward instead of upward, and that the result of a post-mortem on a dead *gaucho* will usually show that death came as a consequence of the solution of the continuity of a greater or lesser portion of his digestive apparatus.

The danger zone encircling a *gaucho* with his knife in his hand is by no means limited to the circle he sweeps with his extended arm. I never learned just how far it did go, nor had I the least desire to find out by a practical demonstration. At a British *estancia* at which I tied up for the night, however, I heard a crack revolver shot—a former army officer who could blot out the spots on a ten of spades at a dozen paces—say that he would be extremely reluctant to take his chance at a draw-and-let-go with a *gaucho* at any distance under twenty yards.

An illuminative case in point came to my attention at an *estancia* owned by an Italian. As a class the American agricultural machinery experts sent to Argentina at this time were as handy with six-shooters as any men I ever met. They were mostly Westerners, had used revolvers from their childhoods, and their arms, from which they never separated themselves for a moment while in *campo,* were always of the best and latest models. Not once or twice, but on dozens of occasions in the course of my river voyage, had I seen one of these cool-headed, steady-handed *yanquis,* with his Colt's or Mauser "automatic," bowl over a rabbit running at full speed across the plain.

This is good shooting, as will be appreciated by anyone who has had experience of small arms. Yet the Italians told me of a Texan whom they described as particularly skillful with his revolver. Having trouble with his *gaucho maquinista,* or machinist, who started to unlimber his big *facon,* he had an even break at a draw at thirty feet, to be retired from action with a knife-blade through his shoulder before his six-shooter was clear of its holster.

My own experience of the *gaucho's* grim perfection in knife-throwing, though not as serious in its consequences, was quite as convincing as that of my compatriot. At an *estancia* where I tied up for the night as I voyaged down into the rich province of Santa Fe, there chanced to be a *gaucho* famous for his deftness with the *facon,* whether held in or thrown from his hand. By way of entertaining me after dinner, the *patrone* called on this light-fingered fellow to perform one of his favorite tricks, that of plotting a human profile on the paintwork of a new threshing machine with the point-pricks of a thrown knife.

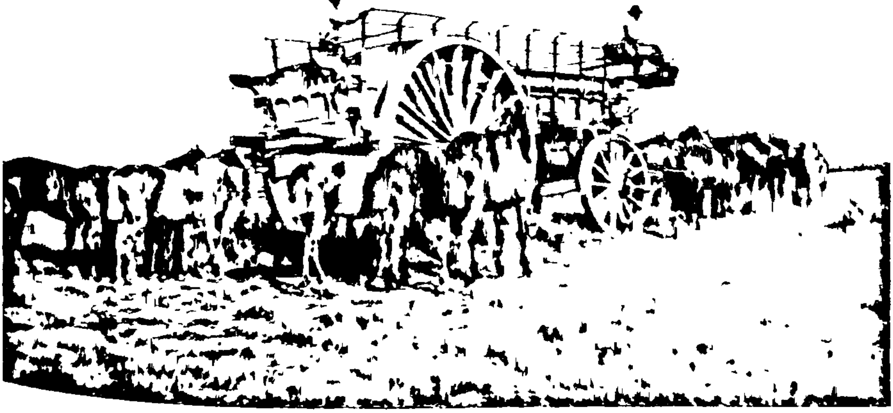
Pedro acknowledged my compliments for his spectacular stunt with a characteristic *gaucho* bow and smile, but assured me that what I had seen was really nothing, since it required no exercise of nerve either on his own part or that of anybody else. But if I would do him the honor to walk off about fifteen paces and hold up the little piece of paper I saw on the ground over there, he would, the *bon Dios* willing, attempt to show me a feat that was really worth while.

I walked meekly off as directed, but with a sinking heart; for I did not need to be told that I was to hold that accursed scrap of paper up while my black-bearded, careless-eyed friend tried to hurl his eighteen-inch-bladed knife through the middle of it without amputating my hand. I was never so lacking in enthusiasm for any proposal in my life. Courage to hold the thing up I knew I had—that was a small matter—but I didn't want to hold it up, and of courage to refuse I had no whit. Besides, I had admired the fellow's skill, and he undoubtedly figured he was doing me no small honor in permitting me to be a party to his exhibition; to decline to act the part of a passive foil would be, under the circumstances, an offense unpardonable.

Inwardly, I was in a terrible turmoil; but focusing all my attention upon the parts that showed, I managed to present a fairly unruffled exterior. The fragment of paper I found to be a page from the popular Buenos Aires comic weekly, *Caras y Caretas,* measuring, I should say, about five inches by eight. This, after cramming my pipe into my mouth, I held out in one hand with all the appearance of nonchalance I could muster, but grasping no bigger a piece of the corner than was absolutely necessary to keep it from fluttering away. With my free hand I scratched a match; then nodded what was intended for an indifferent acquiescence to Pedro's interrogation as to whether or not I was *"listo,"* and at the instant when the blade went "whicking" through the sheet without so much as tearing its edges I was vigorously puffing away for a light. I continued to puff until my match went out before I discovered that I was trying to light an empty pipe. For the next week or two I had *facon* nightmares even during my riverbank noonday *siestas.*

This little incident, of no consequence itself, was the mimediate cause of another that resulted more seriously. Scarcely had I turned to conduct Pedro and some of his *gaucho* friends down to my boat to see the hide of the big jaguar I had killed near the Iguazú Falls, than one of the Italian hands, declaring that he, too, was an expert knifethrower, called for a volunteer to hold up a piece of paper that he might give proof of his skill. The *gauchos* and Argentine *peons* laughed at the fellow's pretensions, pointing out that he had had but a few months to learn the tricks of the

Gauchos at *facon* practice



A grain wagon of the Pampas with wheels ten feet high

pampas which Pedro and his mates had been practicing at all their lives.

But an English sailor, who had deserted his ship in Rosario to take advantage of the high wages paid in harvest time, foolishly walked over and held up the punctured page which I had dropped. Probably he did not appreciate how difficult a thing the feat really was, or, after the Italian had missed the paper by a foot on the first throw, would have sensed that he was dealing with a novice and withdrawn before it was too late. As it was, the knife, at the second trial, struck the unfortunate mariner upon the inside of the wrist, tore its way through bone and sinew, to leave the hand dangling by only a few shreds of flesh and tendon. We prevented his bleeding to death with a tourniquet, but saving the hand was beyond the skill of crude pampas surgery.

* * *

In a packet of mail awaiting me at Rosario was a letter from an English friend in Buenos Aires who had heard that I was voyaging down the Paraná. Enclosing notes of introduction to several Britons, who he believed had *estancias* anywhere from five to five hundred miles from the river, he was particularly insistent that I should not miss the McKinnons.

"They are Scotch," he wrote, "and own a good many thousand *hectares* of country somewhere back of Colonia, on the Uruguayan side of the Platte. One of the girls told me she saw you win the tennis championship of Argentina at Belgrano, and you may have played polo with the boys at Hurlingham. They are giving a big house party at the *estancia* at just about the time you ought to be along that way; but Mac told me to tell you to stop and come up to them in any event. Wire me if you are going to try to make it and I will have your evening clothes and tennis togs sent across, and they will fix you up with something to ride in. My invitation promises a 'Morning of Scotch shooting,' whatever that means in Uruguay. Probably just something in a bottle. . . ."

Below where the broad stream of the Paraná mingled with that of the Uruguay I was voyaging in the Rio de la Plata, famous as the one river in the world that is broader than it is long. The distance from the junction on to tidewater is less than a hundred miles, while the width of the mouth of the estuary below Montevideo is slightly over that distance.

At Colonia I learned that my bags from Buenos Aires had already gone through to the *estancia* McKinnon, and a wire to the station of that name would bring down a saddle horse or a trap to meet my train. The forty kilometer cross-country drive was made that afternoon in a high-wheeled four-in-hand, with tawny-mopped young Bessie McKinnon at the reins. The hospitable bit of "Scotland in the pampas" was a far cry from the primitive *gaucho* cattle camps at which I had been spending most of my nights on the voyage.

The *motif* for the party in the first place was polo, and in the course of a week selection was to be made of players and ponies for a tournament planned with several of the crack Argentine fours, then just beginning to show flickers of that form which was to carry them to world-championship a few decades later. But so varied was the other entertainment provided that the chase of the bounding willow ball was only a prominent incident in a bewildering program of shooting and boating parties, gymkhanas, golf and tennis tournaments, races, hunts, archery contests, *gaucho* exhibitions, bridge, music and dancing.

The *estancia* lands touched the railway about a hundred and fifty miles from Montevideo, from which point it was a drive of thirty miles to the big ranch house. The guests, between forty and fifty in number, came out by special train as far as the railway station, from which they were run through in carts and coaches over a road that had been constantly sprinkled during the previous week in preparation for the extraordinary demands that were to be made upon it. The polo ponies and the grooms, valets, maids and other personal servants were sent out a day ahead of their principals, also on a special train, but one consisting of mixed freight wagons and ordinary passenger coaches instead of drawing-room cars.

The British guests, who had been gathered not only from Montevideo and Buenos Aires but from remote parts of the pampas as well, were the principal force behind the outdoor games. The French, German, Italian, Spanish and other Latin representatives—mostly titled members of the Rio de la Plata diplomatic corps—were faithful workers at the bridge tables and buffet and in the ballroom, but were deficient in enthusiasm for proficiency at the open-air sports.

Of polo there was at least one match every day. These were hotly and skillfully contested, and the four finally selected to represent "overseas" at the coming tournament would have had a fairly high handicap on British or North American rating. The tennis, golf, archery, rifle and revolver practice, and the roping exhibitions of the *gauchos* furnished lively sport, but the outstanding success among the outdoor affairs was reserved for the "morning of Scotch shooting," which did not, after all, turn out to be merely "something out of a bottle."

A couple of hundred pheasants had been netted on the preserve of McKinnon's brother in the north of Scotland, and brought to Uruguay in charge of a keeper, who had watched their cages day and night throughout the voyage in order that no harm should come to them. They had arrived at the *estancia* a fortnight before the house party, and had spent the interval in a huge top-covered chicken-wire enclosure built especially to receive them, in which they were stirred up regularly several times a day in order to keep their wings strong.

On the night before the day appointed for the shoot the captive birds were released in a heavy copse which covered about three acres of a little valley two miles distant from the house. In the morning they were attacked here and slaughtered by that ancient but effective method of filling the air so full of lead, wadding and powder smoke that the feathered migrants, if from no other cause, must have died from asphyxiation.

Everything was done decently and in order, according to the best traditions. There were beaters, gun-bearers, pickers-up and all kinds of other essentials and nonessentials. The bodies of about fifty birds preserved their entity sufficiently to be classed as such, an average of about one to a shooter; but a conglomerate mass of shells, wadding, flesh and feathers was inches deep in all the open spaces of the tiny copse.

I was never educated to this sort of sport, and so fancy some of the fine points must have escaped me; but I saw old white-haired men, who said that they had never missed a season at "home" in years, clapping our host on the shoulder and assuring him that this was the "jolly best morning's shooting, dear old chap," that they had ever known.

My jungle-scarred little Corona portable typewriter, which chanced to be among the luggage I had brought up from the river, played a stellar part in one of the afternoon entertainments. No sooner had Mrs. McKinnon discovered the battered little veteran's presence than she requisitioned it for a gymkhana she was planning. When the typewriter's turn came to get into the play, the removal of its stained old case—covered for the occasion with purple and white violets woven in fanciful design over a wire mesh—revealed the machine resting in a bower of hothouse maidenhair ferns, hovered over by a lot of red roses and pink cupids.

Each lady participant in the game was required to write a not-less-than-fifty-word *billet doux* to an allotted *novio,* who in turn had to reply in similar manner and vein. All who by any chance had ever laid hand on a typewriter were barred from the competition. A time limit of ten minutes was placed on the dispatching of each missive and its response, and prizes were awarded according to composition, neatness and technical execution.

The play soon became fraught with intense earnestness, as was inevitable with so many Latins in the amorous competition. From pecking tentatively at the keys with one finger the eager contestants were soon "I Loving" and "Thou Lovesting" in four languages, with a fist to each language; generally to end up, when a place among the top-scorers appeared hopeless, with eight fingers and two thumbs brought down in a succession of wristy, half-arm jolts, like the action in a series of "crash" chords at the end of a piano selection from Wagner. I will not go so far as to say that I actually saw any of the rapt *señoritas* use her feet; but I was not present all the time, and there were certainly marks upon some of the sheets that were more suggestive of the prints of French heels than French verbs.

For my long-suffering little Corona, which had survived adventures with Borneo Dyaks and Bush Papuans, to be all but flattened on the upper Paraná when a jealous *gaucho* flung his buxom sweetheart across it, because she had permitted too ardent embraces in the *gato,* this frenzied international love-letter competition proved the closest squeeze of all.

CHAPTER XIV

"HIGH ADVENTURE"

An Attempt to Voyage Through the Andes to the Pacific Takes a Toll of Four Lives, Four Boats and Three Ribs, but Reveals Spectacular Scenery and a Glimpse of the Life of the Fighting Chilean Huasos.

"THERE are several breaks in the great wall of the Andean Cordillera," an Argentine *estanciero* had told me when I left railhead at Pampa Central, "but from here there is no *camino real* and no man knows the most direct way to the nearest or the lowest of them. The best you can do, *Señor,* is to head westward, and westward, and still westward, until snowy pinnacles cut sharp notches in the setting sun. At the foot of the great barrier of the Cordillera you will find Indians, and perhaps a few white men, who can tell you of the passes to Chile and el Pacifico."

And so I had fared on as directed—westward and ever westward. While the flat floor of the world's largest and most level plain was still unbroken, I traveled in a single great pampean cart such as I had come to know in my voyage down the Paraná. Ten spans of horses and twelve-foot wheels made light of all-but-bottomless dust and mud which would have engulfed any other kind of an outfit. When cut-bank-scarred slopes of the higher plains nearer the Andes put an end to wheel-navigation, the lumbering vehicle, with its cursing, singing, knife-fighting drivers and outriders, was sent back and I rode on accompanied by a single devoted *gaucho,* who was looking his last on his native pampas.

There was one night of baronial hospitality in the home of an English *estanciero,* who had half a million *hectares* under fence and whose sheep and cattle ranged twice as great an area beside; then a diminuendo of *pueblos* with only a few scattered shacks of adobé; and finally—beyond the outermost rovers of the far-faring flocks and herds—a manless land unranged by anything tamer than the golden-hued *guanaco* and the scurrying *avestruz* or pampean ostrich.

After many lonely days there came an evening of lengthening purple shadows, when a double hump on the horizon bit a ham-bone-like mouthful out of the lower limb of a sun disc which had previously dipped from sight behind a sharp ruled line of level plain. A patch of somnolent fire on the western rim of the sky-dome outlasted the afterglow, and next morning's rising sun struck helio flashes from the slopes of a towering snow-capped volcano, crowned with a coronal of drifting blue smoke. By another evening the sunset glow showed a serrated line all along its lower edge, with vivid pools of fluttering crimson reflecting its light from an unbroken wall of snow. We were in the shadow of the lofty Andean barrier at last.

The highest of the volcanos, said my *gaucho,* must be the great Villa Rica. From its summit it was said that men could see the blue waters of the Mar del Pacifico to the west, and to the east almost across the narrowed pampas to the Atlantico. He had a dark-eyed girl at Comodoro Rivadavia, by the eastern sea, he informed; and now, if luck were with him, perhaps he would find a blue-eyed one at Valdivia, by the western ocean. He had heard that the *muchachas alemánas* were rather partial to *gauchos* from the real pampas.

A Mongol-faced Indian, whom we surprised filling his saddlebags with ostrich eggs, fled at the sight of us, leaving behind him a trail of sticky yellow yolks. A bewhiskered *poncho*-draped figure, with jangling six-inch-in-diameter silver spurs and a dripping *guanaco* hide thrown across his wooden saddle, galloped up with a friendly *"Muy buenos dias, caballeros!"*

He was a Chilean *huaso*—blood-brother to the Argentine *gaucho*—he said, and had come over the Cordillera from Gorbea by the high pass under the great volcano, Villa Rica. This northern *paso* was snow-choked and dangerous in the winter season, and he thought it would be safer for me to fare southward and make the crossing by the trails which followed around the lakes beyond the Volcan Osorno. I could learn more of that route at the little *pueblo* of San Martin de Los Andes, which we could reach at the end of another day by following the tracks of his horse from his hunting camp.

Where the rolling pampean plains broke like the waves of the sea against the uprearing Andean wall in a ruffle of foothills, we came to the attenuated straggle of iron-roofed board and 'dobé shacks which was San Martin. The proprietor of the little *posada* confirmed the *huaso's* statement that all of the transandean passes would be difficult and dangerous for several months yet, and that the least trouble would be encountered in attempting a crossing by the Osorno route some distance to the south.

"The great pity of it, *Señor*," he continued, "is that what is undoubtedly the lowest pass of all, which begins with a lake almost at our doors, is so narrow and rough that there has never been an attempt to build even a *camino* for horse and foot passengers over it. There are lakes and connecting rivers all the way down into Chile and on to the sea, but so narrow and rocky the route that there is room only for the waters. The brave Araucano Indians of Chile live around the largest of the lower lakes—Panguipulli—and are said to hunt up around Lago Perihueico, and even on to the far end of Lacar, which is the lake you see breaking out from the Cordillera to the very rim of the pampas. But I have never talked with either an Argentino or Chileno who claims to have made the passage all the way over. I am certain the traverse has never been made by a white man, in spite of the fact that its highest point must have less than half the altitude of the lowest known pass through the Cordillera, and hardly one sixth to one eighth of that of the lofty passes of northern Chile and

Peru. . . ."

"Perdoneme, Caballeros!"

A tall, powerful figure, wearing a spreading blue *manto castilla* and a pair of English riding boots armed with clanking Chilean spurs, strode forward from the low doorway by which he had just entered. Apologizing in Spanish for the interruption, he turned to me and spoke in guttural but exact Teutonic English.

"I came just in time to hear the *patrone* say that no white man had ever traveled between Argentina and Chile by this Paso de los Lagos. As a matter of fact, I have myself just come from Chile by this route with a party of surveyors, who are now encamped midway along Lake Lacar. Our aneroids have verified the fact that this is indeed the lowest pass at any point on the great Cordilleran range between Panama and Tierra del Fuego. These readings have averaged seven hundred and fourteen meters for the highest point—not much over twenty-three hundred feet. As it is my intention to try to follow the waterway by boat or canoe as much of the way as is possible on the return, it occurs to me that you might care to join in the adventure—as my guest. My name—pardon me for not introducing myself in the first place—is Angeheimer. I am the Chief Engineer of a German company, with headquarters in Valdivia, which plans to build a railway by this pass. Our project contemplates ultimately a through rail connection between the Ferrocarril del Estado of Chile and the Great Southern Railway of Argentina, at Nequen."

This was my introduction to the redoubtable Don Carlos Angeheimer. He had indeed just completed the first recorded crossing from Chile by the Pass of the Lakes. And he did plan to attempt the return trip by water, and subsequently to build an international railway that would furnish a practicable all-winter route between Chile and Argentina.

Fresh from exhilarating rough-water voyages on the Iguazú and upper Paraná, I accepted, as lightly and cheerfully as it had been proffered, the invitation of the forthright German engineer to team up with him for the projected Pampas-al-Pacifico traverse by the Andean lakes. Reaching his camp on horseback along the beach of Lake Lacar, we built our first boat—a rough affair of hewn planks—in a couple of days. A crude scow—rag-calked and with wooden thole pins—it carried three of us smartly down the narrowing lake before a gusty wind from the open pampas. Although the splintered pinnacles above us were seamed with glaciers to where they disappeared in the clouds, so low was the elevation of the pass itself that not a trace of snow was visible along the densely wooded shores of the lake. Owing to the mildness of the air and the moisture, the verdure and exuberance of the vegetation at a latitude not far from forty-five, South, were almost those of the tropics.

The depth and smoothness of the little draining river were responsible for our initial disaster. Beguiled into running a shallow but not especially swift rapid where the pass closed in below the foot of the lake, we had the bottom of the boat torn open by the jagged boulders before we could check headway and work in against the bank. Don Carlos and I, rowing in shirts and riding breeches, waded out with no more than a wetting and rough rolling. Diego, the game but headstrong *gaucho* who had ridden across the pampas with me, was a near-casualty. With *poncho* pinned round his heels by his big new Chilean spurs, he was unable either to wade or swim. Only very smart rope-work on the part of one of the Chilean *huasos,* who had followed along the rocky bank, brought the badly bumped body out with enough life in it to resuscitate. Unfortunately, the folly of rough-water boating in the flowing robes of the cavalier was not fully driven home.

At this juncture a powerful Araucano Indian, from a hunting party camped near the outlet of Lago Lacar, volunteered to take us down to the next lake below in a *cayuga*-like craft he had hewn from the trunk of a huge tree. There were two or three places where the *bota* would have to be carried around heavy falls, he said, and others where it would be safest to let it down with lines. So far as we were ever able to judge, this information was practically correct.

The fellow proved both plucky and skillful, which made it all the more of a pity that he did not qualify to collect the hundred *pesos* which Angeheimer had promised him for taking us safely down to the Lago Abajo. After getting us through a couple of boulder-torn rapids which were rougher than I should care to chance again in an open dugout, he put the German and me ashore to handle the lines for a let-down over a pitch which was too choked with rocks to offer a boatable channel. The Indian remained in the canoe to fend off with a pole as we slacked it down with the current.

Unluckily, the only things we had in the way of lines were pack-ropes of braided horsehair. Strong and serviceable when dry, these *riatas,* besides weakening greatly from water, became so slippery as to be almost impossible to hold firmly. After nearly losing the dugout twice when the ropes slipped through our fingers, it escaped from us completely when one of them stretched and parted. The Indian made the fatal mistake of trying to stick with his boat—perhaps with the vision of the hundred pesos it was to earn him in the back of his head—rather than abandoning it to make the comparatively short jump for the rocky bank.

Just where captain and command parted company we could never make certain. It was only the battered remnant of the dugout which we found bobbing around an eddy half a mile below. A search for the rest of the day failed to discover the body of its courageous owner. Like his fighting ancestors, who repeatedly beat the early Spanish *conquistadores* in fair and open combat, the trouble with this stout Araucano was that he didn't know when to be afraid.

Meandering the torrential little river as closely as they could with their rough survey, the German engineers agreed that the Indian had been substantially correct in claiming that the stream was boatable between the lakes.

Among the other things brought to the survey camp Angeheimer had established on Lake Perihueico was a whipsaw. This made it possible to build our next boat of real planks. It was a fairly handy double-ender, of bateau type, with substantial overhang fore and aft. The oars were long and well shaped. The big steering sweep—Don Carlos' especial pride—was capable of swinging the boat half way round at a single stroke.

It was a fine open-water outfit, as was shown by the way we slashed it down the first two rapids of the next river below. Where the walls of the pass closed in on the third cascading tumble of broken water the banks were thickly lined on both sides with outreaching trees—what my subsequent boating experience on rivers of the Canadian Northwest taught me to call "sweepers." This Chilean brand of river fringe lived up to the sweeping tradition with a vengeance. With one boatman knocked overboard and the oars of the other three useless for lack of pulling room, the boat was carried broadside in a babel of cursing in three languages, and then rolled bottom up.

With all five of us stripped to our underclothes, clambering out was a serious matter only for the young German engineer whose leg was broken when it came between the side of the boat and a boulder. Quiet water below made even his rescue a comparatively simple operation. He was carried on a rough litter down the trail already blazed from the main camp on Lake Panguipulli, where the party doctor took over the case in his log-cabin hospital.

With the boat too badly damaged to repair, further voyaging was impossible for the moment. That the craft was too large and heavy for so rough and broken a river was evident from the glimpses we obtained in cutting our way on down to the lower lake. It was plainly a job for a light craft which could be handled in narrow channels and taken out to portage around rapids too rough to run.

On beautiful Lake Panguipulli, at a point where the draining river from Perihueico came rolling down, we found a large log *bodega* or warehouse, cabins, a sawmill and a stubby wharf—comparative civilization. Choshuenco, as the outpost was called, was to serve as surveying headquarters until the projected railway was located, then to be enlarged to a construction camp, and finally to metamorphose into a mountain resort for tourists and sportsmen. Lake and streams teemed with fish. An hour's trolling with the little open launch provided enough trout to feed the whole camp.

It was this stanch craft—built of newly sawn planks and powered with one of the first primitive Ford motors—which was responsible for our culminating attempt to complete the Pampas-al-Pacifico all-water traverse. Pointing out on his blueprints how the draining river of the L-shaped mountain-begirt lake became the Calle-Calle and finally flowed to the sea, Don Carlos said he knew of no reason why the whole distance could not be made with the launch at the present flood-stage of water. He had ridden close to the banks much of the way, and, while the water was terrifically swift most of the distance to tidewater, there should be no rapids where the boulders would not be so deeply submerged as to present little menace. Even if she did strike now and then, he was certain that his little *Carmencita,* with her reinforced bow and double bottom, would survive the worst of the bumps. Since he was anxious to get his latest report out as quickly as possible, the thing was worth trying in any event.

"If you can amuse yourself with the hunting and fishing for four days," concluded Don Carlos, "I will see that the *Carmencita* is ready to push off at the end of that time. There will be a *fiesta* Sunday, when you can see the *huasos* from down-river at their *topiando* and other sports. And in the evening they will teach you to dance the *zamacueca* with the Indian girls, just as you say you had a fling at the *gato* and the *jota* with the *muchachas* of the pampas. Right now, if you want to see some fun of a kind that may be new to you, pull over to the mouth of the river in that skiff and watch the *lavenderas* racing through our washing from the Argentine trip. I have offered a jug of apple *chicha* to the first one to finish her bundle, and that will mean sharp competition."

A score of brown-backed washer-ladies, each with a huge bundle on her head, were warming up for action with a swinging chorus even as the bow of my skiff grated on the pebbles of their beating beach. A powerful figure, with square jaw and high cheek bones auguring more than a touch of Araucano blood, drew my attention at once. Far from a dew-dimpled rosebud for looks, fluent muscling of shoulders and arms told of one adept in her chosen profession of eradicating —nay, annihilating—dirt.

Now she is getting rid of her top hamper and stripping for work. With a jerk of her muscular neck she lands her big bundle of travel-soiled surveyors' togs out in the middle of the pool she has selected as a base for operations. This done, she commences a careful search of the bosom of her dress for her soap cake. Presently this jewel is discovered, daintily extracted and tenderly laid aside on the grass until the moment arrives for it to play its part in the drama of the day. The clothes bundle has a cubic dimension of about eight feet; the soap of about as many centimeters. You may think there is a disproportion here, but you have overlooked the paddle that is cocked exultantly out of the skirt band of mi-lady, disdainful in the knowledge of its power.

Now she shakes her shoulders free from her baggy waist and stands out in her sleeveless, close-fitting *camisa,* showing arms that might have been hacked from the statue of a Roman gladiator. Then she completes her action-toilet by shaking loose her mane of ebony hair and twisting her cumbering skirt into the seeming of a pair of Zouave trousers, A sudden vicious kick with either foot frees it from its heavy *zapato* or sandal, and with a single tigerlike spring she lands on top of the clothes bundle which has been soaking in the shallow pool. This she wallows vigorously for a few minutes to insure a thorough mixing of cloth and water, after which she grabs a liberal armful and leaps back to the bank. Now she draws her paddle, elbows herself a place among the other washers and settles down to serious business.

The bunch of wet clothes is packed into a wad and, with one powerful stroke of the paddle after another, pounded into a broad, flat pancake. Then she rolls up this disc, stands it on end, and beats it out flat from that direction. So it goes on for half an hour, the muscular brown arms rippling in the sunshine like running water, the paddle steadily joining its sharp, slappy note in the staccato chorus of its obliterative rivals and the plastic wad of clothes constantly changing form and color under the destructive manipulation.

To the rhythmic beat of the flailing paddles and the lusty swing of a washing chorus, I had rowed on upstream to survey the tail of a churning chute at the end of the final rapid when a great glad, exultant cry welled up from the bar by the lake. Surmising that the awarding of the bottle of *chicha* was being celebrated, I pushed out into the swift current and was quickly back with the *lavenderas*. These had left their work to form a gesticulative circle around a knot of violent action from which they were evidently deriving vast entertainment. A more barbarically happy crowd, one fuller of savagely joyful anticipation, I have never seen. It was fairly areek with delirious excitement. And in the middle of the ring, with both parties to it going fresh and strong, was the center of attraction, a fight between two of the washer-ladies, as glorious a rough-and-tumble as it was ever the lot of mortal man to witness.

Just as I jumped from my grounded skiff and elbowed a place among the crowding spectators, one of the fighters seized the other about the waist, swung her clear of the ground and rammed the limp fragment of anatomy into a huddled bundle upon which she proceeded to kneel. Then she drew her murderous paddle, on which, divining her purpose and remembering the execution I had just seen wrought on wet clothes with a similar weapon, I uttered an exclamation of dismay and horror and went all hot and cold with apprehension. I had pushed in to watch a sisterly bit of fisticuffs and hair-pulling, not a murder with torture.

The momentary cessation of action which preceded what I had expected to prove the end gave me brief opportunity to compare the two participants in the furious fray. One, the upper dog, was a powerful, heavy-set woman of the Chiloto type, her arms and legs all knotted with muscles like an old tree. She was plainly a seasoned campaigner, probably the veteran of a hundred fights—slow and awkward but terribly sure.

The other was slender and willowy, and must have been very graceful under normal circumstances. Her limbs were clean and trim, and her muscles, though not large, looked tough as whipcords. Her face was of an Italian cast, dark and beautiful, with great, wide, mad-looking eyes that glowed like live coals. It had been bulldog against wildcat, and, to all appearances, had ended with the cat cowed and beaten and about to be crumpled up and devoured.

With a triumphant leer the stubby one raised the great paddle above her head. Sick with dread, I closed my eyes and waited for the blow to fall. I even fancy that I was trying to frame a protest, or nerving myself to attempt dragging the combatants apart; but the impulse passed with the opportunity. I sensed rather than heard a great gasp of joy and excitement from the encompassing crowd, and in another instant became aware that a slender brown hand, darting out like a striking *cascabel,* had snatched the paddle. Then I saw that a lithe form had wormed its way free of the clumsy knees that had held it, and that the willowy dark lady was now deftly side-stepping the rushes of her stubby assailant and sending home some viciously telling cuts and jabs with the sharp edges of her captured weapon.

This went on for a couple of minutes or so, and so shifty was the dark lady's footwork and so effective her paddle thrusts that the wobbling knees and heaving breast of the stout one seemed to presage a speedy and complete collapse. But she continued to rush as doggedly and blindly as ever,

Chilean washerwomen

and just as she seemed tottering to a fall the narrowing circle of the crowd trapped her agile opponent and allowed Her Stubbornness again to seize that lithe form in her terrible muscle-knotted arms. That marked the beginning of the real fighting.

Mistress Stubby's hold was too high to permit her to lift and throw her adversary, and she was too cautious to risk trying to change it. The dark beauty, though fresh as a daisy so far as strength was concerned, was quite unable to break from the grip of the iron arms that encircled her. As a consequence, she spun and wriggled like a transfixed butterfly; but how she did fight! Her slender waist was held crushed and immovable, but from her head down to it, and from her feet up to it, everything unpinioned was in action.

Every ounce of muscle, every drop of blood, every fiber of nerve was fighting. She fought with her toes, her knees, her shoulders, her elbows, her hands and her teeth, and she seemed to have the legs of a centipede, the arms of an octopus, the heads of a hydra. Things flew so fast that the fight was all one big whirr. And over it, under it, around it, through it, whizzed the biting paddle. Now I heard a "thwack" as it came down flat with stinging sharpness upon a section of soft flesh, now a thud as a bone disputed its way, and now a creepy "chug-chug," as the edge of it bit flesh and bone alike. It was the fastest half round I ever saw in any ring.

For me, even as a spectator and aside from humanitarian aspects, the affair was developing in a manner which made my presence scarcely tenable. As the fighting became increasingly fiercer the clothes became continually fewer. Since there was not a very large amount of clothes in the first place and the fighting threatened to become fiercer and fiercer and go on indefinitely, I was not long in deciding that I had best retreat while the way was open and I could do so unblushingly. I take credit to myself for thus making up my mind to leave while the fight and garments were still unfinished.

I had even started to move resolutely away, when Providence, or Fate, or the God of Battles, quite possibly as a reward for the sacrifice I was making, intervened and let me see the end. The end of the fight, I mean, not of the rags and tatters of protective wrappings. Her Stubbiness simply caved in at the knees and fell over backward, taking the dark nymph, still held in an iron clasp, to the earth with her. Then they both rolled into the bubble-flecked washing pool and the crowd had to rush in and tear them apart to prevent a double drowning.

* * *

Riding and rowing around the lakes as I waited for Don Carlos to make ready for the final stage of our voyage from the pampas to the Pacific, I had good opportunity to make the acquaintance of the Chilean *huaso,* whom I found quite as congenial a friend and host as had proved the *gaucho* of the pampas. Less ready and scarcely so deadly with the knife as the Argentine cowboy, he struck me as being rather the better horseman and stock-handler of the two.

The *huaso's* pony is stockier and closer to the ground than the mounts of the pampas, his saddle shorter and more compact, and his cowhide *riata* but a string in comparison with the long coils used by the *gaucho* or the American cowboy. But his roping work is far smarter than anything to be seen on the pampas, not unworthy, indeed, of comparison with the best on one of our western cattle ranches. Like his Yankee cousin, he is keen about horse racing, but where the plains cowboy delights in long, heart-breaking cross-country runs of endurance, the *huaso* vents his enthusiasm on short, sharp dashes of a few hundred yards.

The races are seldom for more than a couple of hundred meters, but they are furiously contested, the horses being thrown into their full stride at the drop of the flag and run under the whip all the way. Owing to the shortness of the course—usually a straightaway between the Andean foothills—the start is far more important than in a contest of a mile or more, and this leads to a wearisome lot of jockeying in getting off that is only compensated for by the excitement at the finish. A tremendous lot of betting goes on, and the spectators become so excited that they race their horses back and forth at the starting line with the real contestants. When the flag is finally dropped the whole cavalcade madly gallops down to the wire, there to converge in a mad mix-up of plunging horses and swearing, gesticulating riders. One wonders what it would be like if a similar method of "following the races" were practiced by the crowd at Epsom or Churchill Downs.

No one goes on foot to a *huaso* horse race; in fact no one could live for long unmounted anywhere near the center of action. The spectators even eat and drink and bet from their saddles, and no institution of its kind is stranger than one of these race-course *al fresco* buffets. The bar itself consists of a row of barrels containing *chicha* or apple cider, beer, *aguardiente* and whisky. Scattered along on these kegs may be found a few bottles of *pisco* or raisin brandy, *chicha champaña* or champagne cider and vermouth. Over this array is erected a screen of boughs and behind it preside the barkeepers. The patrons crowd in for drinks between races. No man dismounts, but rides along the bar in turn, picks up a glass and drains it without leaving his saddle. I soon discovered that a true *huaso* would sit his horse like a centaur long after he was so drunk that on dismounting he would tumble inertly to the ground.

The wooden stirrup used by the *huaso* is quite unique. It is hewn from a single piece of hardwood into a shape not unremotely resembling a big Dutch wooden shoe without the heel. It is hollowed out just enough to allow the fore part of the foot to get a comfortable hold, the shell left around this opening being from half an inch to two inches in thickness. The outside is always carved more or less intricately in geometric designs, and some of the finer stirrups are richly inlaid with silver. The weight of a single *estribo de madera* is often as much as eight or ten pounds.

Like the *gaucho* of the pampas, the *huaso* carries no cooking utensils, not even a drinking cup. When on the road, however, a useful substitute is frequently improvised from one of his wooden stirrups. When a halt for lunch is made the latter is unhooked from the thong which suspends it, and, after being washed out, its hollow is used for the stirring up of a thick gruel of toasted flour and water. The *huaso* eats all the gruel his appetite craves, washes it down with a stirrupful of clear water, connects up the useful block of wood to his saddle again, mounts and rides on his way. Truly a literal rendering of the "quaffing of a stirrup cup."

The fanciful taste of the *huaso* in footgear was responsible for giving me a very anxious quarter-hour on one of the early days of my Panguipulli sojourn, with a decided shock of surprise at the end of it. I was riding alone near the margin of the lake for the purpose of making a study of the rapid by which we would have to enter the draining river. Suddenly, leading in from a by-path and heading off before me, appeared the sharp and unmistakable prints of what I decided at once was as dainty a woman's shoe as ever the eye of man rested upon. A girl in French heels in the wilds of a Chilean forest in the heart of the Andes and fifty miles from the nearest railway was enough to stir a migratory male's curiosity if nothing more, and it was with no small degree of pleasurable anticipation that I spurred up and hastened on to solve the intriguing mystery.

As my nervous pony plowed along through the mud, I was perplexed to note that the footprints were far apart, and with the toe striking deep, as though made by a woman running at the top of her speed. The misgivings aroused by this discovery turned to a certainty when, topping a slight rise, I beheld the figure of a man just disappearing around the bend below, running hard and steadily with his eyes on the ground like a trailing hound.

"Dirty work at the crossroads!" thought I. "That devil of a *huaso* is on the girl's trail, and for no good, either, I'll be bound. But he'll have to reach her first or his game is up."

With the image of those dainty footprints fluttering on my retina like the colors of his lady on the breast of a knight of old, I laid lash to my pony and galloped on to the rescue. Round the curve I loped, only lifting my eyes from the pathetic line of tracks long enough to see my man splashing through a little stream in the bottom of the *barranca,* his eyes now eagerly raised to something he had apparently descried in the dimming vista of the trail beyond. As my hard-blown pony floundered up the next hill I heard the pursuer shouting angry orders for someone to stop, and swung into a straight stretch of road again just in time to see his sharply flung *riata* catch and bring up short some object which had taken refuge in the wild bamboo which at that point hedged in the trail with solid walls of jointed green poles.

My strained ears caught the sound of a stifled cry, which ended in a gurgling cough as the *riata* tautened, and to my horrified eyes there was revealed for an instant a glint of golden hair tossing against the somber verdure of the thick-set bamboo. That was all—until my flying pony was brought back on his haunches by the jerk I gave his Spanish bit on discovering at one and the same instant that I was about to ride down a man who had just lassooed and was in the act of tying up what was apparently a runaway pet *guanaco,* and—oh, the humiliation of it!—that the little tracks I had been following ran right on to where the astonished *huaso* stood and stopped!

The worst of it was the tracks didn't stop beside the roping fiend, with a supplicating French-heeled *señorita* in them, but ran right under him and disappeared. The *huaso* himself was the "maiden" that I had galloped so hard to save from his own attack, my misapprehension having arisen from the very deceiving tracks left by the enormously high-heeled *botas* he was wearing. The *guanaco* is a small animal of the *llama* family, with hair of the richest yellow-brown, and this particular specimen, floundering in the coils of its owner's *riata,* had furnished the gurgling cry and the glint of golden hair that had put the cumulative touches on my illusion.

The *huaso* wears a high-heeled boot partly in vanity, perhaps, but principally because it gives him firm holding when roping from the ground, and because something of the kind is necessary to keep his enormous spurs from trailing and tripping him as he walks. These spurs are anywhere from two to six inches in diameter, and are quite the savagest rowels worn by any members of the cowboy tribe.

Next to his horse and saddle, a *huaso's* pride centers in his *riata.* This is not the plaited horsehair affair so much used by our western cowboys, but simply a twisted strand of green hide of great pliability and surprising strength. The strongest *riatas* are obtained from the hide of the neck of the half-wild steers of the Southern Andean meadows. When the animal is killed the head is severed from the body and a cut is made around the shoulders and breast at the base of the neck. The cylinder of hide thus released is pulled off after the fashion of a glove finger. The *riatas* are then made by cutting a strip round and round this cylinder until a strand of the desired length is obtained.

The rivalry over the strength of their "ropes" frequently leads the *huasos* into a dangerous and exciting contest called "*riata*-pulling." The ends of two *riatas* are knotted firmly together, while the opposite extremity of each is attached to the girth rings in the saddles of their respective owners. The horses are then ranged, tail to tail, in the open, and, at a pistol shot, goaded by whip and spur, raced toward opposite points of the compass. When the end of the tether is reached, one of the *riatas* or a girth breaks, and the horses and riders go sliding along on their noses until their impetus is exhausted in friction. The man whose rope holds is allowed to keep all of that of his opponent which remains knotted to his own, and if a girth breaks, the saddle, along with the unbroken *riata,* must be forfeited.

Except for *topiando,* into which I was initiated at the Sunday *fiesta* just before we pushed off for the Pacific, *riata*-pulling is probably the roughest friendly game indulged in by the cowboys of any country. The shock of the pull, coming as it does from behind, gives neither pony an opportunity to settle back upon its haunches and maintain its balance as in roping cattle. It is practically impossible for a horse to keep its feet when the jerk comes, and the best a rider can do is to shake feet free from stirrups and take the roll independently of his pony. If the game is entered into in an entirely friendly spirit, the contestants usually choose a springy bit of turf for the test; but if there is any feeling in the affair, or if they chance to be seeing things at all largely after a day of *chicha* drinking, they are more likely than not to try out on a flint-paved mountainside where bruises if not serious injury are inevitable.

On the afternoon of the *fiesta* at Choshuenco one of the ponies in a *riata*-pulling contest balked and started to buck immediately after the pistol was fired, giving the other horse a full two *riatas'* lengths to get going in. The latter was an unusually fast animal, and so terrific was the jerk when the *riatas* tautened that the bucking pony, being caught in mid-air and broadside, had its ribs crushed in as though they were no more than a framework of lath. Its rider was catapulted a dozen yards or more, but only to alight on his high heels, quite unharmed.

The *topiando* of the Chilean *huaso* as revealed to me during the *fiesta* at Lake Panguipulli is the only sport I have ever seen comparable in abandon and general roughness with the polo of the Himalayan hillmen. It might be most simply defined as a big bunch of men and horses going berserk and trying to obliterate one another from the face of the field. The feet of the riders are protected by their great wooden stirrups and the legs by their *polainas,* a legging of the *chaparajo* type made of hard green hide. The mounts have no protection but their saddles and the legs of their riders.

For the first few minutes *topiando* takes the form of an assault by one section of the players upon the others, but in a very short time party lines are wiped out by the fury of the contest and the fighting becomes indiscriminate and general. Each rider endeavors to force his horse over that of the man who chances to be in front of him, lashing about meanwhile with his murderous ramal.

The *ramal* is a contrivance of half-tanned leather which is attached to the end of the bridle reins and used after the manner of the Mexican quirt. When employed in this orthodox fashion it is neither very cruel nor even very effective in encouraging a horse. But this innocuousness is only apparent. On the end of the *ramal* that joins the reins is always to be found a ring of steel or silver, often richly chased or inlaid. Its ostensible use is to join the *ramal* to the bridle, but weighing, as it frequently does, from four to eight ounces, it forms, when the *ramal* is reversed, a weapon which will fell a man in his tracks. Moreover, on specially constructed *ramals* may be found, hidden away among the harmless looking flaps of hide which form the lash, a slender little loop of tough sinew that will just slip over the wrist. When the reversed *ramals* begin to swing in *topiando,* things are assuming a serious aspect, and after that knives are a possibility at any time until the game breaks up. As a matter of fact they are rarely resorted to. It is a generally observed point of honor for a man to refrain from drawing his knife as long as he retains his seat. If he is thrown to the ground it appears that he is permitted to use it to hamstring a horse to save himself from being trampled.

What struck me most about *topiando* was the fierce spirit in which the horses entered into it, a fact that will be readily understood by those who are familiar with the way of polo or cattle ponies. On several occasions I saw ponies which had lost their riders kick and shoulder their way out of a *mêlée,* only to rush off a few lengths, swing about and come charging back again, quite as though their masters were still in the

Dancing the Zama cueca

A bar for Chilean Huasos or cowboys

saddle. Their manner of throwing themselves into the crush was quite comparable to that of a reckless back going into a line. *Topiando* has, in fact, much in common with football, but might better, perhaps, be likened to an old-time college cane rush on horseback, with the rushers more or less intoxicated and slugging permitted.

The *huaso* as a rule is not much of a squire of dames, though on Sunday afternoons and all day during *fiestas* he will frequently vouchsafe the sex some attention. This usually takes the form of dancing the *zamacueca,* a number much like the *jota* of Spain and Argentina. To an outsider this popular dance is more suggestive of a couple of partridges hopping up and down in front of each other at mating season than anything else, but to the initiated it is undoubtedly a medium of much intimate expression. The lady, her eyes cast demurely on the floor, flaunts a handkerchief teasingly at her partner as he approaches her, eluding his grasp with insinuating step. It is the language which she gives the handkerchief—with her glance and the coquetry of her dainty glide—that determines the character of the provocative dance. It may be a poem, a rhapsody of rhythm, or merely dull and tiresome prose. It is seldom prosy as stepped by the *huasos.*

The *cueca* is usually danced to the music of a harp and guitars and to the vocal accompaniment of all the participants. The song may consist of only one stanza, or even of but a single line, endlessly repeated; and no one of them seems to mean very much if you write it down on paper and translate it. One of the most popular *cuecas* goes: *"Las hijas de Taita Pancho,"* which means nothing more or less than "The Daughters of Daddy Pancho."

Hardly a theme to require terpsichorean expression to develop, you think, particularly when that is all there is to it. But once you have danced it, with many glasses of *chicha champaña* humming melodies in your ears, the harp and *guitaras* tinkling softly in unison, and a lithesome nymph of a Chileña beckoning you on with her kerchief and duck-ing and side-stepping every time you thought you had her cornered, and with the sob of her soprano rising above the boom of your baritone in *"Les Hijas de Taita Pancho"*—when you have thus danced the *cueca* the veritable glamour with which those Pancho girls are invested is something beyond the power of words to express.

Keeping my mounting ardor firmly in hand, I managed to confine my action to endless iteration of the praises of the Pancho *muchachas* and futile passes at the witching will-o'-the-wisps of my tantalizing partners. Not so my forthright Diego of the Pampas. Wolfing up the most elusive of the teasers in a greedy *gaucho* grab, he smothered her cries for succor in a bearded *besita* and started bearing her out into the silver moonlight to give his *cueca* adequate finale.

The girl's *huaso novio,* sensing that action rather than words was necessary to save his sweetheart from the impetuous Argentino, confined his protest to one smashing blow with a log-trimmer's adze. With the line of demarcation between the lady's dusky tresses and the ebony beard of the amorous Diego somewhat difficult to determine in the flickering lantern light, the mat of hair and whiskers absorbed the force of the blow without serious injury to either party. Before another could be aimed and delivered the coolheaded Don Carlos had shot the weapon from the jealous *huaso's* fingers and prevented what well might have been a double killing.

"That *gaucho* of yours is too good a man with a rope to risk losing," he observed drily, wiping his Mauser barrel on the long nap of his *manto castilla.* "We'll need him tomorrow on the river. But I might suggest that you keep an eye on him when he gets through to Valdivia and starts hunting for that *'muchacha con los ojos azul'* he's been talking about. Some of my countrymen might unlimber a 'Big Bertha' on him if he went about corraling a blue-eyed German girl as they round up steers on the pampas."

* * *

Theoretically, Angeheimer's plan to complete our water traverse from the pampas to the Pacific was sound enough. If the Calle-Calle had been studied in advance, and if the *maquinista* of the launch had been enough of a river man to pick out and follow the main channel, we could hardly have failed to go right on through to the ocean at the ten to twelve miles an hour at which we covered the first stage. It was a flood-swollen side channel, blocked all the way through with uprooted trees and drift, which lured us into a *cul de sac* from which there was no escape save by trying to barge right on through the barrier.

Carmencita's double bottom was all that Don Carlos had claimed for it in the several hard jolts which it withstood as we were hurled onward into the maze of roots and trunks. But when she grounded and upset in a torrential chute, staunchness of bottom became a secondary consideration. Here it was every man for himself and the river take the hindmost. Of the latter there were three—all cowboys from one side or the other of the boundary, who had laughed at Don Carlos' repeated warnings to get out of their cumbering *ponchos*. The other five of us carried through into the comparatively quiet water below, to swim to the bank with the aid of the back current in a big eddy just above where the channels united. Both the engineer and I saved our saddlebags, his with valuable papers on the survey to date and mine with camera, revolver and films.

Horses for the ride on to the main line of the Chilean State Railway were provided at a lumber camp to which we made our way on foot. When a German surgeon at Valdivia diagnosed a stiffness of my left side as coming from three cracked ribs which must have been injured in the upset, Don Carlos consoled me with the remark that my loss in broken bones had been less than his in wrecked boats and drowned men.

"I'm especially sorry about your *gaucho,* Diego," he said. "I have no doubt that there will be weeping *novias* to mourn him in many ports of the pampas. While I can't help being a bit relieved that we won't have to stand watch on his round-ups of blue-eyed *muchachas* in Alemán Valdivia, I hope and trust there will be many such in the cowboys' paradise to which he has voyaged."

* * *

All of this occurred in June, 1906—over three decades ago. Subsequent letters from Don Carlos told of the completion of the survey for the transandean railway, the inauguration of construction on the first section from the Chilean State main line, and finally its abandonment through failure of financial backing. He still hoped that I would return some day and join him for the all-water traverse of the Cordillera from the pampas to the Pacific. He trusted my cracked ribs had grown together again, and promised to supply boats and men to replace those we had lost on our first attempt. Finally no reply came to one of my letters and the interesting correspondence dropped.

Over a quarter of a century passed before, in the course of an airplane flight around South America, I was again in the beautiful Lake Country of Southern Chile. Lago Panguipulli could now be visited by automobile, I was told, and was famous for its trout fishing. Of the higher lakes beyond little was known save that they could be reached by horse trail or a rather rough *camino* sometimes used for freighting. A higher but opener pass a hundred miles to the south had been favored for the through auto and lake route between Argentina and Chile. The famous Norte Americano, Theodore Roosevelt, had declared this to be the most spectacular scenery through which he had ever traveled.*

When I asked the Loncoche innkeeper with whom I put up for a night if anyone had ever taken advantage of the natural waterway for a boat voyage from the pampas to the

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* For a comparison of the two Andean lake routes see *Discovering South America,* Dodd, Mead and Co., New York.

Pacific by way of San Martin de Los Andes, he smiled and shook his head.

"There are no longer such *bobos*—such fools," he answered decisively. "The memory of what happened to those who tried it the first time has been enough to discourage the *locos jovene*—the young lunatics—of the present day. Most of that first party of *ingenieros Alemán* are said to have been drowned or dashed to death against the rocks. Don Carlos Angeheimer survived, but was drowned a few years later while trying to ford on horseback a rapid in which one of his boats had been upset. As for the mad young *yanqui* who is said to have egged Don Carlos into making the crazy voyage, he has never been heard of again, but it is believed he was killed in the great Valparaiso *terremoto* a few weeks later. '*Pampas al Pacifico! Si,* it sound *muy pintoresca, Señor;* but one who would attempt it must be *muy loco*—quite mad."

When I assured the gesticulating boniface that the mad young Yankee had not only escaped with his typewriter and most of his hide from the great Valparaiso earthquake, but also from a number of subsequent boating escapades quite as crazy as the *Pampas al Pacifico* voyage of tragic memory, and that, moreover, this incurable optimist still harbored a sneaking idea that the famous Andean Paso de Los Lagos could be negotiated in comparative safety with a light boat and outboard motor, the good fellow's manner was palpably that of one who would mollify an escaped lunatic until such time as the proper custodian should appear and take the public menace into custody. He was still muttering "*Si, Si, caballero; como no? Señor,*" as he shoved me into the waiting auto which was to rush me back to my waiting plane at Temuco.

CHAPTER XV

"REPTILIA AMAZONAS"

A Voyage Through the Flooded Delta of the Great River Reveals How the Mussurama Masters the Bushmaster and the Indians Blow Up Alligators with Animal Bombs.

DR. DO SILVA, en voyage from his home in Rio to his rubber and nut plantation in the State of Pará, had been my fellow passenger in the Panair do Brasil "Clipper" for two days. Educated in both Europe and North America, he had proved to be a mine of information on economic, historical and political subjects relating to Latin America in general and to Brazil in particular. But it was not until our final night stop at the comfortable new hotel in Fortaleza that it transpired that he was scarcely less erudite respecting the fauna and reptilia of the Amazon Basin.

It was my mention of the way I had seen a Central American king snake terrify and cow into complete inaction a pair of newly caught *cascabels* or tropical rattlers, into whose cage it was dropped in San Pedro, Honduras, that was directly responsible for the invitation from Dr. do Silva to stop off at Belem and pay him a visit at his plantation a few hundred miles up the Amazon in the State of Pará. When I expressed regret that these natural jungle enemies had not been allowed to fight it out to a finish, the Doctor said he felt sure he would be able to show me the whole grim drama from start to finish if I could arrange my flying schedule so as to lie over for the next northbound plane.

The Honduranian snake I had seen, Dr. do Silva thought, must have been of the species known as *sumpidora,* or a very similar name. It was a nonpoisonous constrictor very closely akin to the Brazilian *mussuruma*. It had been his interest in the latter as an exterminator of venomous snakes, and a belief that it might be propagated and distributed for that purpose, that had first brought him into coöperation with the Butantan Institute of Serum Therapy through collecting serpents of his section of the lower Amazon Basin for study by the experts at São Paulo.

When it transpired that there was a place for me on the Trinidad plane a week hence, and that a connection out of Belem with the Manáos-bound Lloyd Brasileño steamer gave fair promise of my being back in time for that departure, I fell in gladly with Dr. do Silva's plan. The latter's program was also to include, if practicable, an Indian hunt for alligators with the *yacca* or jungle skunk, fantastic tales of which I had heard on previous visits to the Amazon, but had never succeeded in authenticating.

Abnormally heavy rains on the basins of northern, southern and Andean tributaries had brought the Amazon to a flood stage beyond the high-water marks of recent years. Thousands of square miles of lowlands about the littoral were deeply inundated, with the spreading waters encroaching closely upon the but slightly elevated site of Belem itself. The heavier seaward set of currents through all of the interlocking deltaic mouths kept our up-river steamer hugging the banks even more closely than usual, at the same time making it feasible to resort to many narrow *parana-miri* or side channels impossible to use at ordinary stages. This offered the best opportunity I had ever enjoyed for an intimate glimpse of the remarkable delta region formed by the tangled channels of the Pará and the Amazon.

One sees wild riotous tropical growth in many places throughout the torrid zone where heat and moisture conspire to urge it on, but in very few places anything equal to the upsurging jungle bordering the lower Amazon. In this part of Brazil the scattered inhabitants have to fight back the forest from their doors as relentlessly as those of Holland fight off the sea. Let a plantation be abandoned for but a single year and, except for the largest trees, the whole must be reclaimed as from the primeval bush. The little settlements along the river make no more impression upon the colossal forests which hem them in than the burrowings of a mole in a mountain. Let a pestilence—as frequently happens—come along to destroy a part of the inhabitants and perhaps drive the rest away. In three months the flimsy dwellings of brush and thatch and clay will have melted before the rains, ants and jungle rot, and in a year the forest, closing in from all directions like the sides of a hole in a bed of quicksand, covers forever all traces of human residence.

"Man and the river are always going," runs a proverb of the Amazonian Indians, "but the forest remains."

Even Belem—commonly called Pará, which is the name of the State—a city of close to 300,000 inhabitants, is but a larger space reclaimed from the onrushing flood of temporarily stemmed tropical vegetation. The forest wall looms a solid cliff behind it, and one may pass in fifteen minutes from the glare of street and square to the sunless depths of primeval jungle. Some of this jungle, indeed, is not altogether primeval. Several square miles of it consist of land once covered by populous suburbs of the expanded metropolis in the height of the Brazilian rubber boom, which reached its peak and collapsed just previous to the outbreak of the World War.

The roads or *picadas* which connect with the scattered and isolated plantations are driven like tunnels through the overarching walls of green, in the passage of which the mounted traveler must be ever on the alert to sever with his *macheté* the loop of liana which lies in wait to pluck him from his saddle. A disused road closes up so completely in a few weeks that a clearing gang is necessary to put it in shape for traffic.

The difficulty of keeping open for any distance communications by land has led to the location of plantations of all descriptions upon the main river, or on one of its countless navigable side channels. About the mouth of the Amazon, so intricate and far-reaching is the interminable system of channels of the delta, that in a 200-mile semicircle from Belem —from southwest to northeast—there is scarcely a square mile of ground which cannot be touched by a canoe or larger craft. Between the estuary of the Pará River and the main mouth of the Amazon, of which the former is really a part, lies the large island of Marajo or Joannes, which is itself divided by side channels into some thousands of smaller divisions. Voyaging up the Amazon from Belem, even in a 5,000-ton ocean-going steamer, one does not circle out to sea to gain the main river, but merely steams off up the Pará and cuts through to the big stream by a *parana-miri*. In a similar manner one can penetrate in a smaller craft from the Pará to the mid-lower waters of the Xingu, 400 miles from the coast, without once entering the Amazon proper.

Trying to thread the labyrinth of passages connecting the Pará and the Amazon is one of the most elusive and fascinating problems imaginable—to attempt it on one's own, I mean. Sometimes the current flows through from the Pará, sometimes from the Amazon, the set being influenced by tides, winds and the prevalence of periods of high water on one river or the other. Following through with, or against, a prevailing set of current is therefore a by no means infallible procedure. For while the lower *parana-miri* may be flowing in one direction, those of the upper section may be swirling in another.

Occasionally one will work along in a northerly direction for twenty or thirty miles (as befell on my first riverine wanderings in the delta), only to have the channel whose current he has been following debouch into another which sets him quite as decidedly back to the south. There is little danger involved in thus nosing about in this greatest of all natural mazes, for food—both animal and vegetable—is usually ready to hand; and where camping on the bank is not practicable, one may make himself quite comfortable in his canoe. But if one is really trying to get somewhere, his time will be lost, for no novice has ever been known to work out the puzzle alone.

A crew of experienced Indian canoe hands which knows where it is heading for may accomplish the passage in from two to four days; a stranger may spend as many weeks without seeing anything but a narrow, flat, constantly curving floor of water and the encompassing walls of the forest. In a regular river steamer, which usually goes by a carefully charted route through the most open and direct channels, the passage is merely a matter of hours.

The voyage from the Pará to the Amazon, whether made in a steamer, sailboat or dugout canoe, is a memorable experience. The Pará estuary, from a width of five or six miles, suddenly closes down to a half dozen narrow passages. Into one of these, as a rabbit dives from an open road into a hole in the brush, the steamer heads. You find yourself in a channel less than a hundred yards wide, hemmed in by towering walls of forest which cut off the sky on either hand and leave only a vivid ribbon of cloud-blotched blue showing between the matted tree tops overhead. The water is as uniformly deep as that of a dredged canal, and the hundred-foot-high forest walls, rising abruptly from the water's edge, give one the impression of moving through a deep canyon, a feeling which is accentuated by the muffled echoes awakened by the throb of the engines and the splashings of the screw.

The wall of the forest, for the most part, is as regular as the skyline of a Parisian street, but here and there dome-topped giants of some leguminous variety tower in solitary majesty to almost double the height of the encompassing mass about them. Your first attempt to find anything tangible in the bank of greenery itself will probably end in failure. But after you have made the acquaintance of a botanist—there are always two or three botanists and entomologists aboard—and have brought a trained mind and eye to your assistance, the study becomes a never-ending source of delight.

It will be pointed out to you that the smooth trunk you have noted disappearing in a tangle of creepers belongs to the clump of varnished, fanlike leaves above, the whole forming the rare Mirti palm, the single specimen of which in Kew Gardens, London, is valued at five hundred pounds. That feathery palm, with the clumps of brown hair on its trunk which you could so easily mistake for the backs of animals, is the still rarer Assai, which no amount of greenhouse pampering has ever been able to keep alive out of its native jungle. That of the shuttlecock-shaped crowns of huge undivided fronds, with its vivid pale green contrasting so vividly with the more somber hues of the surrounding foliage, is the splendid Ubussi, indigenous to the delta of the Amazon alone. That one, with its huge forty- and fifty-foot leaves arching so gracefully above the channel, is the Jupati, whose heart the Indians tap for a liquor so fiery that the white must mix it with from five to ten times its volume of water before it will cross his palate without burning. All this you gather from a learned discourse which is as interlarded with tongue-twisting terms of Latin nomenclature as the speech of a desert mule driver with oaths.

At the head of the Uituquara Passage, thirty-five miles before the Amazon is reached, the steamer route leads across a round lakelike body of water bearing the somewhat hackneyed but eminently fit name of The Hell Hole. It appears that most of the winds that come down the Amazon from Venezuela, Peru, Colombia and Bolivia, as well as a few whiffs that follow the Pará down from the Paraguayan frontier, have a way of meeting in The Hell Hole and scuffling about to see which shall have its way in endeavoring to find a broadened outlet to the sea. Some four or five hundred little channels, flowing to as many different directions, also converge upon this same popular center, and from the hubbub kicked up by the winds and the currents the place takes its name. Canoes and sailboats avoid it entirely, and even the steamers prefer to make the traverse in the lulls between the tussles of the wind.

Only a narrow two-mile-wide channel comes into view as the end of the Uituquara Passage is reached, the rest of its thirty miles of width being cut off by a long island. But the steady four-miles-an-hour sweep of even this southerly trickle has all the majestic seeming of a great river. It moves with the directness of a man answering a summons, and in its turbid ocher-colored waters, contrasting so strongly with the clear stream of the Pará, float bits of wood and leaves and grass, the remnants of a toll it has levied on a half dozen nations, across nine tenths of the width and over half the length of a continent.

"This is a stream with a mission, you would say if you were dropped from an airship on the banks of even that narrow channel of the main stem. Long before the chug-chugging engines have carried you to the broadened reaches above, where there is clear horizon in all directions, something in the power and swing of the relentless current has forced the truth upon you, and you realize that this is indeed "The Great River," in comparison with which all other streams are but pygmies.

The landing at which we were to disembark to be picked up by Dr. do Silva's own launch was fifty miles or so below the mouth of the Tapajos, the river upon which the great new Ford rubber plantation is being developed. The Captain located the familiar notch of the clearing in the forest edge, but after a brief survey through his binoculars reported that the river was surging right over the bank and that all of the thatch huts were either carried away or deserted. Our whistle brought the launch scurrying out of the shadowed eddy in which it had awaited us, and we transferred to it without serious difficulty at the edge of the backwater below the next bend.

The *ingeniero* of the launch reported that the forest was completely inundated right to the edge of the slightly rising ground, twenty miles to the south, where the headquarters of the plantation were located, and that a number of the outpost farms had had to be temporarily abandoned. As was always the case in periods of extensive overflow, there was great loss of life among the non-arboreal and non-amphibious animals and reptiles of the jungle. For the moment, however, the survivors were in oversupply, the consequence of concentration on such islands of refuge as were provided by ground still above the rising tide of the flood. Several snakes of the constrictor family had been killed to keep them from crawling into trees immediately overhanging the plantation house, and one—a fine specimen of anaconda, over seven meters in length—had been taken alive.

The news which appeared to interest Dr. do Silva most, however, once he was assured that no part of the new rubber plantings appeared likely to be exposed to the spreading sheet of water, was that a large *surucucu* or bushmaster had been captured half way through a fight with one of the plantation terriers. Although the dog was a famous snake-killer, his master had had to interfere in a scrap in which the canine, for the first time in his life, had met more than his match. He had been bitten more than once; but the wounds had been sucked and seared within a few minutes, and several injections of antivenin given shortly afterward. It looked as though they were going to pull him through. The snake, considerably chewed but apparently not seriously injured, had been caged and awaited Dr. do Silva's orders as to disposition. It had not been measured but looked to be all of three meters and a half in length.

The bushmaster, Dr. do Silva explained, although found in practically all jungle sections of tropical South and Central America, was by no means as common as the rattlers, *fer-de-lances* and other members of the *Bothrops* group and the coral snakes. Even discounting half a meter of the estimated length, this specimen, if not too badly messed up, would be welcomed not only in Butantan but in any of the large zoos of North America and Europe. In a way, he was sorry the captured specimen was not smaller, in which case he would have been glad to have matched it with a *mussurama*—a duel to the death which he had never yet had the opportunity to bring off. A *surucucu* possibly near to eleven feet in length, however, would be far too valuable to sacrifice for even so interesting a battle.

Most of the *parana-miris* through which the launch nosed at a cautious six knots were so narrow that the trees frequently met overhead to form a solid tunnel of greenery. The most notable feature of the trees was not their girth or diameter, but rather the great height to which they grew without sending out a limb. The largest of these giants were rarely over 250 feet in height—in that particular, dwarfs besides the largest of the great sequoias of the California Sierras —but in many instances half, and even two thirds of this distance, was unbroken by a single limb. Logs of a clear hundred feet in length are not rareties in the Pará sawmills.

A most striking thing about these larger trees is the growth of the buttress-like projections which support the lower parts of their trunks. These are common to certain trees of other sections of the tropics, but nowhere else is the buttressing growth developed to such a degree as on this section of the lower Amazon. The intervals between these supporting growths, which are composed of but the thinnest walls of wood, form room chambers not unlike the stalls of a stable. A stall on the leeward side of a tree offers the completest protection imaginable in the heaviest thunderstorms. Their origin and purpose are as plain as those of the buttresses of an ancient castle or fort. They are nothing more or less than roots which have raised themselves out of the earth, growing gradually upward and outward as the tree needs an increasing amount of support. They are obviously intended to sustain the massive stem and crown in these crowded forests where the lateral growth of roots in the earth is rendered impossible by multitudinous competitors.

But more remarkable even than the trees were the amazing creepers, the warp of the forest which bound together the woof of standing trunks. Many of these lianas, according to Dr. do Silva, had been growing for hundreds of years—as long as the forest, in fact—and literally extended over miles of territory. Some no thicker than a man's arm can be traced day after day without coming to the parent root, though every little way places will be found where feeding rootlets have been struck into the earth or the rotting trunks of trees. The Doctor mentioned a certain variety of creeper a single strand of which may, in emergency, be used by a steamer instead of a hawser in mooring to the trees along the bank. Tests have proved its breaking strength to be greater than a sisal rope of the same diameter, and scarcely less than that of the best manila. Parallel double lengths of creeper, with a foot-tread of finer growth woven in between, have been thrown across rivers in spans of over 200 feet, supporting for years the constant travel between two Indian villages.

These lianas of such length and strength belong to a single family, but a remarkable feature about the flora of the Amazon is that in nearly every family, the bulk of whose members are not climbers, certain species, through stress of circumstances, have been forced to adopt this habit. There is even a climbing genus of palm, called by the Tupu Indians the *Jacarita.* They have slender, thickly spined and flexuous stems, which twine about the smaller trees, from one to another, and grow to an incredible length.

The lower tree trunks through which we passed were everywhere linked together by tangles of creepers, whose woody stems showed along the ground, and whose foliage, mingled with that of the taller trees, was far above in the sunlight. Some were twisted in strands like wire cable; others had thick stems contorted into every shape, twining like boas around the boles of the trees, or flung in loops and coils among the branches. An anaconda we surprised among a tangle of lianas thrown across just above our heads was almost indistinguishable from his arboreal bridge. One eccentric creeper, indented in even notches and plated with yellow lichen, wound off skyward like a veritable "Golden Stairs."

Kaleidoscopic flocks of birds and butterflies were stirred up all along the way by the passage of our launch. Dr. do Silva said that something like 150 varieties of butterflies had been found and described in the Amazon delta region alone —from two to three times as many as in all of Europe. Many more remained to be discovered, especially on some of the remoter upper rivers. As for orchids, probably as many remained to be found and described as were already classified.

Surpassingly beautiful creatures most of the butterflies were. Many had a wing span of at least nine inches, and few were not colored in the most dazzling of bronze, scarlet, vermilion and royal purple. Those four or five hours of threading the mazes of deltaic *parana-miris* brought me to the most vivid realization I had ever attained of the meaning of Kipling's

Do you know the steaming stillness of the orchid-scented glade
Where the blazoned bird-winged butterflies flap through?

Nothing but tree and palm trunks broke the green-brown surface of the flood waters until we were right at the edge of the clearing leading back to the *fazenda* buildings. Even here the launch headed on over the submerged landing stage and pushed on to moor against the stout hardwood palings of a half-flooded cattle corral. The low eminence beyond rose several feet above water level, with uninundated if rather soggy ground in sight for the mile or more to the sheer edge of the forest wall. The manager estimated that perhaps three or four square kilometers were above the highest probable line of the flood. This area was rather crowded with stock and households concentrated from the overflowed region, to say nothing of the jungle denizens that kept edging in over the fringe. An anti-reptile patrol, on foot and in boats, had been maintained for several days.

All of the domiciles for humans were raised from five to ten feet from the ground—the manager's house on concrete piers, those of the foremen and laborers on piles of palm or bamboo. The office, warehouses and dwellings of the manager and his staff were roofed with galvanized iron, and screened. All of the palm-thatch houses were open to anything that flew, climbed or crawled. Mosquitoes, strangely, were rare, with the disease-carrying *anopheles* almost unknown. Dysentery was a worse pest than malaria, but only to those who were not careful to have all of their drinking water boiled.

The manager's house, where we put up, was a rambling one-story affair, open to the rafters and with more porch and unenclosed space than rooms. Free circulation of air was the main consideration. The rooms were hardly more than dressing and storage cubicles opening off the showers. Hammocks and hammock hooks menaced at every turn, which prompted Dr. do Silva to quote the popular saying to the effect that the planter of the Brazilian tropics uses a bed for only two purposes—as a nuptial couch and as a funeral bier. The manager's house was equipped for neither nuptials nor funerals. I saw several folded cots, but they were falling to pieces from the ravages of ants and mildew.

There was just time to visit the survivors of the jungle fight before the swift tropic twilight had its lid clamped down with a breaking squall. The big airedale, swathed with bandages, was swollen and short of breath, but otherwise in remarkably good shape for a thirty-pound animal that had been bitten no less than a half dozen times by one of the most savage and venomous of tropical snakes. The stout-hearted canine was even enough master of his faculties to recognize Dr. do Silva and to try to stagger over to nuzzle his hand.

The terrier's owner—a half-breed Indian and Negro—gave us a voluble account of what had happened, meanwhile renewing embrocations apparently consisting of aromatic leaves cooked up with a number of other obscure ingredients in a stone pot. The *surucucu*—retreating up a jungle path before the rising water—and the dog saw one another at about the same instant. They sprang to attack simultaneously, the pinkish-brown serpent no less ready than the terrier. Having seen his pet repeatedly crunch up the deadliest of *jararacas* and coral snakes as readily as he would dispose of a string of sausage links, the master had no misgivings at the outset about the result. He recalled an instant too late that this huge bushmaster was a valuable specimen, and as such should have been captured rather than killed or maimed in a fight.

This was the terrier's first experience with the pugnacious *surucucu,* and it may well have been the fact that the snake came to meet him in full charge instead of awaiting his onslaught that made him fail for the first time to fasten his teeth in the deadly neck-hold which had always enabled him to finish his serpent as he pleased without danger of being bitten. If he got any neck-grip at all it was shaken off by the rough scales of this most heavily armored of vipers. When his white teeth did fasten to a hold it was a foot or two farther down, leaving enough of the muscular neck free to turn and strike.

Most of the lunges of the great fanged jaws were expended upon the air, but every now and then one or both of the scimitar-teeth seemed to find flesh, though perhaps quite as frequently that of its own coils as of the body of its assailant. The Negro was confident that his pet would have chewed through the *surucucu* at the point of his hold, but hardly before he had received his own death wounds. Slashing a forked stick with his *macheté,* it was not much of a trick to pin the plunging neck to earth, holding the bushmaster captive until there was opportunity to bring a bag from the nearest house. It was harder to keep the fighting terrier from returning to the attack, and it was impossible to do anything for the wounds until a couple of peons answered his call and came to help.

"First aid" was administered on the spot. Accustomed to caring for his gaff-gashed fighting cocks, and no novice in the treatment of snake-bites, Pedro worked with neatness and dispatch. The jaws of the still fighting-mad terrier were tied shut with a hitch or two of light liana. While the spread-eagled body was held by his friends, the Negro burnt off the hair from every potential fang mark, gashed the flesh with his sharp clasp knife and sucked long and hard at the incision. After every suck he spat out the blood and washed his mouth with jungle water. Where unmistakable swellings proved beyond doubt the presence of venom, he even masticated the flesh with his teeth to aid the expulsion of the poison. Seven or eight spots were thus treated, but the man worked so fast that he could not be certain that any one showed a double fang puncture, indicating that a heavy shot of venom had been injected. Indeed, he was rather inclined to believe that most if not all of the wounds had been from side-swiping or glancing blows, and probably from only one fang at a time.

Within half an hour of the time it was first struck, the dog had been carried back to the little emergency hospital at the *fazenda* and given an injection of antivenin specially prepared by the Butantan Institute to neutralize the hæmolytic action of the venoms of the *Bothrops* groups of snakes. The infusion of herbs was a remedy in high repute among the Indians, and Dr. do Silva admitted that it had been known to be at least of material assistance in effecting cures. However, as some of the Amazonian aboriginals had long been following the slashing, burning and sucking method of first-aid, he was inclined to believe that any favorable results were more attributable to the physical removal of the poison than to any subsequent neutralizing action of the native remedies. In this particular case the Doctor said he felt certain that nothing but the almost immediate removal of the venom by an experienced and skillful "sucker" was responsible for giving the victim even a fighting chance for life. That the injection of antivenin was serving a good purpose, however, was evident from the comparatively slight bleeding at eyes and other exposures of mucous membranes. This indicated that the venom was having very little chance to break down the blood.

Pedro shared the Doctor's optimism as to the progress of his patient—but with one reservation. A certain incident boded very ominously. The one thing that should have been foreseen and guarded against had occurred. Among those who had come to look at the wounded Sambo had been the young wife of a foreman, a woman who was due to become a mother inside of a month. He had never known a snakebite cure that was not upset by such a hoodoo. The *patrone* knew how careful they always were to bandage the eyes of a bitten man against such contretemps. The only thing to be hoped for now was a speedy miscarriage, and even that might not come in time to save poor Sambo.

The Doctor, without directly trying to controvert a superstition he had never been able to shake, adroitly brought comfort in this particular case by pointing out that the pregnant lady was not of Sambo's own species—that nothing short of a lady dog in similar condition of expectancy could throw a monkey wrench into the cogs of his pet's recovery. Pedro admitted that there was reason in this contention, and we left him telling over in his mind the tale of Sambo's canine visitors to make certain he had not been exposed to the one spell against which no charm brought sure protection.

The other principal of the jungle fight was in a chicken-wire cage under the "snake-shed." Even in the failing light it was evident that this was an outstanding specimen. It was larger than any bushmaster I had ever seen in Central America, where the *Lachesis muta* is believed to have a slight edge on the South American members of the family for size. Dr. do Silva subsequently wrote me that its length of 3.31 meters—almost exactly eleven feet—entitled it to rank as the largest specimen of which there was authentic record on the lower Amazon. The color was more pink than brown, with muddy black blotches, distributed irregularly along the back and down the sides, growing smaller toward the belly.

Pulled with a hook out of its rather messy coil to give the Doctor a chance to survey the marks of the fight, the savage viper threw itself violently against the front wire of the cage in an endeavor to get at its new enemies. As it drew its bruised body back into a striking coil, I was much interested to note the vibrations of the horny tail. Twice or thrice, when this was brought into contact with the loose wire of the cage, the resultant staccato was astonishingly suggestive of the warning tattoo of a true rattler. On the dead leaves, among which the bushmaster is so often found, in the dry habitat which it prefers to the damp jungle beloved by the *fer-de-lance* and its other fellow vipers, the resemblance is so startling as to have resulted in the nickname of *La Cascabela Muda*—"The Mute Rattler."

Dr. do Silva shook his head disappointedly as he eyed a bruised mass near the base of the neck, where the terrier's strong teeth had torn through the protecting scales and reduced the pink-white flesh below to sausage meat.

"I fear Sambo and his master have ruined a very valuable specimen even for mounting," he said. "Pedro didn't mention that he used his *machetè* before pinning down the neck with a forked stick. There's a dead drag on both sides of the lump. Probably all hashed up inside. We'll see tomorrow. If there appears no chance of making a perfect *surucucu* of it, we'll give it to one of the *mussuramas* to polish off. Looks as if it had a skinful of fight in it, anyway."

Dinner, in spite of what might have seemed overemphasis on the turtle *motif*, was a memorable repast. We had turtle soup, an entrée of calipash (or was it calipee?) fried in its own green fat, and turtle roasted in its shell, with a pepper-pot sort of dressing poured over the slashed meat under a "breading" of grated *cassava*. The delectable *ahi*, carefully cleaned of its deadly poisonous section, was the salad course, and a pudding of candied coconut and Brazil nuts the dessert.

By way of a febrifuge there was the palm wine laced with a prophylactic dose of quinine, and *vino do oporto* from a keg which had come direct from·its primal fount on the coast of Portugal to Pará. Rare fare for the heart of a jungle *fazenda* which did not pretend to provide its guests even with ordinary beds.

I turned the subject back to snakes by telling of some of my Caribbean contacts with that amazingly widespread belief about the way the sight of a pregnant woman complicates the cure of a stricken victim. There was that time on Chiriqui Lagoon when, sauntering through a straggle of thatched shacks while the "pick-up" launch loaded bananas, my attention was attracted by a knot of excited men coming out of the jungle on the opposite side. In the midst of the hurrying group, staggering in the supporting hold of companions on either side, was a bare-backed *peon* whose head was completely swathed by what appeared to be his shirt. Just before I came abreast of the disorderly party, the leaders turned into a house and closed the door against the quickly gathering crowd which had tailed on behind.

An old Jamaican presently hobbled along to make clear something I should have been able to figure out on my own account from what I already knew of native snake-bite superstition. The *peon,* cutting weeds in his plantain patch, had been struck on the side of his bare foot by what was claimed to be a *barba amarillo,* as the local natives called the *fer de lance.* There was no fear that the village snake-doctor could not effect a ready cure if only the victim could be brought to him without letting his eyes rest on a prospective mother along the way. That was the reason for the bandage. If there were any women about when a man was struck, it was always the custom to bind his eyes up first and his wound afterward. The crowd about the door was now in violent debate as to whether or not the muffling *camisa* had slipped before or after the procession had passed that young Mendoza girl who was obviously so near her time.

The whistle of the waiting launch recalled me before this important point was settled, and I never heard whether the victim lived or died. Dr. do Silva said that the belief that a snake-bite sufferer must be shielded from the glance of a pregnant woman was apparently as universal among the aborigines and lower class South Americans as it was north of Panama. He had never been able to trace it to any tangible basis of fact, as could indubitably be done in so many cases of native superstition. Take that about the bite of the tropical rattler, *Crotalus terrificus,* called the *cascavel* in Brazil and in the Spanish-speaking countries *cascabel.* One would be assured in all parts of Latin America that it struck with so terrific an impact that, no matter where the blow was delivered, the victim's neck was invariably broken.

"As a matter of fact," Dr. do Silva continued, "the neurotoxic venom of the *cascavel* produces paralysis and suffocation; also blindness. The relaxation of the cords and muscles of the neck causes the victim's head to fall forward on his chest. The death which follows shortly is, not unnaturally, attributed to the broken neck resulting from the shattering impact of the *cascavel's* strike.

"Or take the case of the stubby little viper sometimes called the *timba* or the *mano de piedra.* Its length, full grown, may not be over two feet, but it is so round and chunky that its Spanish name, meaning "Hand of Stone," is derived from its resemblance to the Mexican Indians' corn crusher. Indians will solemnly tell you that the *timba* can jump high enough to endanger the foot of a man in a saddle. Such an attack might occur if the snake were on a log, stump or steeply sloping bank beside the trail; but the best the pugnacious little fellow can do on the level is a spring of perhaps half a meter, with its tail never clearing the ground by more than an inch or two."

While a firm believer in the usefulness of antivenins, Dr. do Silva felt that a mistake had been made by their protagonists in allowing a popular belief to spread that they were prepotent and all-sufficient. Their role, in their present state of development, he considered distinctly secondary to that of physical removal of the poison. So far as his own experience went, while he knew of many instances where cures had been effected by a vigorous sucking of the wound without the use of an antivenin, he did not know of a single case (where a man had been struck by a known venomous snake, of course) in which a victim had been pulled through by an antivenin alone. Intelligent use of the hypodermic needle was too much to expect of the average plantation laborer, even if it were possible to provide each gang with a kit. Even where the victim was taken with all possible speed to the nearest qualified operator, hours usually elapsed before treatment was possible. But every peon had a mouth and a knife, and could find a piece of liana for a tourniquet with little delay. Impressing upon him the importance of cutting vigorously and sucking hard was the prime necessity.

Dr. do Silva had never used a breast-pump or any of the special mechanical contrivances for drawing the venom from a bite. He was strongly of the opinion, however, that nothing could be devised of this character equal to a powerful pair of jaws, a clean mouth and a full set of teeth. He did not, though, share Barnum's idea that a "sucker is born every minute." Many a bitten man had died because his companions had been afraid to suck long and hard enough at the wounds. The ideal extractors of venom were men who, like Pedro, were habituated to sucking the wounds of their gamecocks. By manipulating the flesh with their teeth, such men would do a far better job than one who confined his sucking to a simple drawing action with the lips. The prevalence of syphilis among the natives did, of course, make for a considerable danger if there were sores about the face or mouth. A man so affected should never be allowed to suck venom from a wound.

Dr. do Silva showed me samples of the four antivenins prepared by the Instituto Serumtherapico of São Paulo. One

The deadly Fer-de-lance

(and by far the most widely used) was to neutralize the hæmolytic action of the venoms of the Bothrops or viperine group. The second was calculated to check the neurotoxic and hæmotoxic action of the tropical rattlers. The third was to be employed against the neurotoxic poison of the coral group, and the fourth was a polyvalent serum for use when the biting snake had not been identified. All of these with the exception of the coral snake serum, for which there is negligible demand, are manufactured in the United States for use against the various venomous snakes of North America.

I was able to cite an especially well documented instance as an exception to Dr. do Silva's belief that no well sucked snake bite had ever proved fatal. The circumstances were related to me by an Engineer of the United Fruit Company, with whom I climbed the volcano of Chiriqui, Panama, a couple of years previously. As a meticulously exact account of just what occurred in a trying and tragic contretemps, it seems worth recording here. Snake stories, to an even greater degree than fish and bear stories, tend to run so much to superlatives that a plain unvarnished tale from a trained and unemotional observer is a valuable contribution. I set it down just as Moore told the story in our camp on the flanks of Chiriqui:

"It was during my first year in Honduras. We were doing some new-land topography at some distance from the railroad. Snakes of one kind or another were seen frequently, and I, to be on the safe side, always carried a little emergency kit in my pocket. At that time permanganate of potassium, if applied in time, was supposed to be infallible.

"Walking to work one morning—single file, along a newly cut jungle path—I saw the Honduranian immediately in front of me lengthen his stride to clear what I afterward found to be a hole in the ground left by the rotting of the trunk of a palm. His left foot reached the other side and, as the right one followed it, an open reddish-white mouth flashed up and struck at the bare brown heel. The distended jaws were a hundred and eighty degrees open, so that they formed an almost flat plane, with long curved fangs, half sheathed in loose membrane, protruding from the upper end. The strike was more like the slap of a hand than the punch of a fist.

"My automatic was out instantly but the darting head had a split-second jump on me. The aim of the fangs at the flying heel was not quite true, but although the blow was only a glancing one the force of it was astonishing. The whole right foot of the victim was knocked sharply sideways as it might have been from a well-delivered kick. The peon reeled several steps before regaining his balance. In fact, he never did stop staggering until we began to carry him, though whether this was from fright or the effects of poisoning there was no way of knowing.

"Pumping three or four shots into the dark coils in the hole, I jumped right on across and had a tourniquet on the fellow's ankle within thirty seconds of the instant he had been bitten. I did not even stop to identify the snake. I knew it was venomous from the head and fangs, and that was enough for the moment. Only one fang had made a straight penetration. The other had ripped a long gash through skin and flesh and had probably failed to shoot home its full charge of poison. It was from this tear I figured that the strike had been only a sort of side-swipe.

"The moment the tourniquet was tight I slashed the heel deeply across the wound and started the men sucking the cut. This was kept up over a considerable period, the tourniquet meanwhile being slacked at intervals to avoid the danger of gangrene. Finally permanganate crystals were rubbed into the cut and held there with a bandage. Everything was done exactly according to directions with the kit, and I have yet to hear of a case in which the full treatment called for was applied so soon after the bite. I cannot to this day recall a single thing that could have been done quicker or more thoroughly—considering what we had to work with, of course.

"The snake had been dragged out of the hole while we worked on the bitten man. My bullets had almost reduced it to sausage links, and these sections, in turn, had come in for a good deal of pummeling by the excited peons. The flat spear-shaped head, fortunately, was still almost intact, and from the smears of bright saffron under the lower jaws it was easy to recognize a *barba amarillo* or 'yellow-beard,' as the dreaded *fer de lance* is called in the Spanish countries. My rough estimate of the length was between nine and ten feet—a large snake for the species but by no means a record one.

"It was a long slow walk back to the railway and a gasoline car that would rush the victim to the Tela hospital. He was urinating blood within a few minutes, and before long red mucus was flowing from eyes, nose and mouth. Black blotches were mottling his abdomen when we lifted him onto the car—a sure sign that the breakdown of the blood was proceeding rapidly.

"The 'pot-shot' was given the right of way through to Tela and, by good luck, did not go into the ditch, as has happened so often from overspeeding on emergency runs. Doc Nutter and Doc Whitaker have probably treated more snakebites than any other two medicos in the tropics. Both of them spent years on the Madera Railway in Brazil before coming to the Fruit Company. They did everything they knew but it was not enough. The poor devil died that night."

"There is no doubt that the *fer de lance* delivers a heavy charge of venom when it strikes full and solid," commented Dr. do Silva. "And the bushmaster drives home still more. It is fortunate that one's chances of meeting either of them at close quarters is comparatively slight. But in this particular case—with the wound on so remote an extremity as the heel and the tourniquet applied so quickly and doubtless handled so effectively—I cannot help feeling that a first-class sucker, like Pedro, would have extracted enough poison to save the victim's life. Probably the peons were nervous and only did a half-hearted job of it. But one couldn't be sure on that score, of course.

"The poison sacs of one of the large vipers must contain enough venom to kill a very large number of men if distributed evenly among them. There are records of *jararacas* having given birth to litters of sixty or seventy young, each averaging a foot long and already with enough venom in reserve to kill a full-grown man."

This reminded me that I had seen at Tela a photograph showing seventy-six newly born *fer de lances,* each as large and as heavily envenomed as those described.

A crescendo of shrill squeals, a dance of fluent shadows among the rafters and the thud of soft bodies striking the floor or partitions interrupted further reptilian reminiscence at this juncture. My host grinned, stepped briskly to a corner of the veranda, to return to his seat holding a shining black serpent coiled ingratiatingly around one of his arms. Another, following along the floor like a pet puppy, created a momentary diversion by trying to climb to my lap up the inside rather than the outside of the leg of my slacks. Deflected from that impracticable detour, it promptly hitchhiked to its objective by throwing a couple of light coils round my fending arm.

"A pair of our 'tabbycats,'" explained Dr. do Silva. "They're exclusive snake-eaters naturally, but can be taught to chase and kill rats and mice. They would probably come to eat small rodents in time, but—since their most useful role is as a killer of poisonous snakes—it would be highly undesirable to broaden their tastes. What the Instituto is trying to do, with Government coöperation, is to impress upon the planters and other jungle- or forest-dwelling people the importance of protecting their *mussuramas,* keeping them as pets and encouraging them to breed around homes in regions where there is constant threat from venomous serpents. They are among the most docile creatures in the world. They love to be handled and stroked, and their apparent affection for human beings seems to be based upon the enjoyment they get from such treatment. It can derive in no way from the regular feeding which has so much to do with attracting a cat or dog to its master, for they prefer to do their own foraging in the bush. The one thing they adore above all others is to have a shedding skin gently massaged and peeled off, or to be tickled under the chin or rubbed up the back of the neck against the scales. I had thought of putting this fine fellow against the remains of the *surucucu,* but from the feel of his stomach he is too near repletion to have the heart for so big an order."

The terrier continued to show improvement in the morning but the bushmaster—while abating no whit in scrappiness—was plainly too badly cut up to be worth preserving either as a zoo or a museum specimen. There was no hope of finding a *mussurama* that would anywhere nearly match in size the huge viper, but Dr. do Silva felt the latter's hurts would even the odds on that score. He was also anxious to watch the *mussurama's* reaction on meeting the bushmaster and to note the effect of the injuries one inflicted upon the other.

There was no lack of the sleek black killers to choose from. Every family forced from its home by the rising waters had taken care to bring its *mussuramas* along with its parrots and monkeys. Most of these were too lately gorged for fighting, as it proved, but among the reptilian flotsam and jetsam brought in by the "snake patrol" was one powerful seven-footer with a completely empty stomach. Although almost certainly an out-and-out jungle snake, it was scarcely less amenable to handling than the pampered pets of the *fazenda.* Ravenously hungry, it was right up on its tail for a go at anything calculated to fill that aching void within.

The fight was staged in the little palm-thatch cockpit. The bushmaster was brought out dangling over one of the ordinary right-angled handling hooks, the *mussurama* looped lovingly around Pedro's forearm. The viper coiled the instant it was dropped and gnashed its great curving inch-long fangs against the tantalizing prods of the hook. It was thought it would have secreted no great amount of venom since its fight with the terrier. There was some inertness of the body where it had been cut or bitten, but the neck was drawn back into a full "S"-shaped spring that was set on a hair-trigger at any threatening move. The spiked tail fluttered so swiftly that it blurred to the eye.

The *mussurama* was nuzzling energetically in Pedro's shirt bosom when he brought it into the ring, evidently on a foraging expedition. It still kept raising its neck to be stroked even after being dropped on the ground, and it was not until it had been shoved along to within less than a yard of its opponent that it suddenly realized that there was a potential dinner at hand. Eagerly it glided forward and started nosing over the livid pinkish coils of the bushmaster in much the same manner in which a hungry but fastidious tabby noses about a saucer of milk. There was a muffled but unmistakable rat-a-tat when the questing nose came in contact with the quivering spiked tail.

The surprised and angry viper struck twice or thrice, blindly and awkwardly, missing each time. The lack of resilience in the recovery after each blow at the air indicated that there was a serious break of articulation in the swollen area where the terrier's teeth and the *machetè* had wrought their havoc. The next blow went home, but rakingly, a whitish gash on the constrictor's black side showing where a single fang had side-swiped. The wound galvanized the killer into flashing action. Throwing a swift half-hitch round the darting neck of the bushmaster, it closed its long narrow powerfully toothed jaws just back of the lancelike head. Apparently it was a carefully selected strategic point of attack, just where the armoring scales were light on the under side. The *surucucu's* great mouth yawned wide open for an instant, the fangs hanging loosely. Then the gleaming twin scimitars, as though their work was over, were slowly retracted into their sheaths in the upper jaw.

That deadly grip had already decided the issue, but the probable reason it was so easily gained became evident as the *mussurama* threw a double coil around its victim in endeavoring to get a better chewing leverage. A lop of the darkly blotched length of the viper was caught in the tightening folds, and where the *matcheté* had cut deepest it was folded back a hundred and eighty degrees like a broken stick. It was too much to expect even the terrible bushmaster to put up a fight with a severed spinal column.

Leaning close, one could hear the bones crush as the coolly methodical *mussurama* completed its job of killing the front end of its dinner. The tail end was still lashing fairly vigorously well after the head hung limp and lifeless. But the wide-spreading jaws of the viper presented an apparently insuperable obstacle to beginning the first course of what would have been an interminably long meal, whether in terms of time for consumption or linear extent of the *pièce de résistance*. Now it was the fangs which got in the way, now the sharply toothed lower jaw. In time one or the other obstructions might have been crushed down or bitten off; but even after that the swallowing operation—on account of the difference in size of the snakes—could only have been a partial one. The feast would have had to be literally a movable one, with digestion of the first section completed before the next could be swallowed.

To avoid this—and also to give both the *mussurama* and myself a real run for our money by way of a fight—Dr. do Silva ordered a fresh victim for the sacrifice. This was a six-foot *jararaca,* newly caught, and smarting under the indignities of its capture after being marooned for perhaps many days on a fragment of driftwood on the bosom of the flood. It hissed its hate for all the world from the heart of a coil of olive-brown checks, and seemed a bit surprised when the only answer to its challenge was to have a slender black jungle colleague glide up and try to give it a friendly lick-and-promise on its *barba amarillo*—the yellow beard of its lower jaw.

Apparently that kind and trusting *mussurama*—not able to recognize by sight the difference in size and color of the new-comer—did not realize at first that it had been "short-changed." It seemed actually trying to start in on the *jararaca* just where it had left off on the *surucucu*—that is, to swallow it without the conventional preliminary of killing it first. For its trustfulness it received a terrific flat-fisted blow full on the swell of the body just below the neck. Any venom the viper had not expended upon its captors must have been shot in that hard-driven strike. The double puncture as we examined it afterward was perfect for such a discharge.

Without exhibiting the least evidence of pain or distress the imperturbable killer—realizing instantly that there was some further work to be done before its dinner was ready for consumption—set about the operation with purposeful energy, neatness and dispatch. Not all the swift dartings of the victim's neck could shake off that half-caressing hitch ending in another of those viselike grips at the base of the iron-lance head which had done for the bushmaster. This time, though, the short sharp teeth crunched toward each other a bit farther forward, so that the back portion of the yellow chin-whisker scales of the *jararaca* was included in the bite. The upper part of the killer's head was actually inside the viper's loose sagging mouth, with the scimitar fangs, in their casing of membrane, right above it. If that wide mouth could have been clamped shut the curved fangs must have been driven through the constrictor's head. But of that there was no danger, as the suave executioner must have known instinctively. Not being a "biting" snake like its adversary, the only way the viper can drive home its fangs is by striking. And with striking the lance-head of that particular viper was finished for good and all.

Save for a bit more of a tussle of interlocking coils, the end of the *jararaca* came as swiftly as had that of the wounded *surucucu.* The fanged wide-spreading jaws proved again an obstacle to swallowing, but they were finally crushed and smeared into a nonresistant lump and started on their way. Just why a cannibal snake does not simplify the swallowing act by starting its victim down tail first it is hard to say, but this appears to be one of the things that just aren't done by conventional *mussuramas.* Dr. do Silva suggested it was possibly because the tail-first order would be against the set of the scales and so inclined to develop resistance.

The swallowing was a slower and more tedious operation than getting into an under-sized sock. Terrific as the effort was, however, there was no time during which the killer was working itself around the still wriggling body of its victim that it displayed the least annoyance at being picked up and handled. I even felt that a tickling rub along the distended neck brought an answering wriggle of ecstasy, but that was probably imagination. When the six feet of viper was all tucked away inside the seven-foot length of the *mussurama* at the end of perhaps thirty or forty minutes, the now rather torpid body of the feaster was carried gently away to a cage to complete the several-days-long process of digestion.

The body of a dead *mussurama* had been brought in from the jungle while the fights had been going on in the cockpit. Cutting open the well-filled belly Dr. do Silva found, as he had expected, the undigested remains of a three-foot coral snake. The constrictor, unmarked by a bite, had undoubtedly died from the effects of the deadly colubrine poison entering its system from the stomach. Completely immune to the venom of the rattlesnake and viper groups, the *mussurama* invariably dies either from the bite of the *coronella* or as the consequence of having eaten one. The reason that it has not learned to avoid the *Micurus* group as a whole is possibly due to the fact that many absolutely innocuous snakes of this genus "mimic" the poisonous ones so closely, both as to form and pattern of markings, that even an expert is frequently puzzled to differentiate. Dead snakes tell no tales of course; nor do they transmit anything in the way of a fear complex to progeny that never come into being. Surviving snakes, that have eaten only the harmless Pseudo-boa, will have transmitted nothing but the memory of a delectable meal. It would be interesting to know how many hundreds, or thousands, of years will have to elapse before the vengeful *mussurama* will have become either immune to the colubrine venom, as it has to that of the rattlers and the pit vipers, or else have learned to avoid contact with the nearly thirty species of the widely spread *Micurus*. It is Dr. do Silva's belief that the comparative scarcity of the *mussurama,* and the slowness with which it appears to increase even when protected by and from human beings, is due to the mortality from ill-advised attempts to add the *coronella* to an already amply varied menu.

This incident recalled that I had been told at the Tela serpentarium that a huge jungle toad, occurring in only a few valleys of the littoral of Honduras, which defended itself by ejecting venom from glands on its shoulders, was most scrupulously avoided by the boas of that region. But when one of the big constrictors from Nicaragua or Guatemala was added to the collection, it always had to be protected from gulping down what always proved to be a fatal breakfast. During my own visit to Tela, indeed, one of the *fer de lances,* after besting a foot-long toad in open combat, started to swallow it. I took a photograph of the dead viper with the hind legs of the toad sticking out of its mouth. The powerful venom of the stricken silurian had acted upon its killer even before it was completely swallowed, and there was more kick left in the toes of the toad than in the tail of the *fer de lance.*

That afternoon we covered many miles of the overflow area in one of the big ox-drawn *cayugas* that were being used to evacuate families from outlying sections already under water. Because all of the jungle denizens which could manage it had taken refuge on the trunks or in the branches of trees, there was far more reptile life in evidence than one would see under normal conditions. Birds, butterflies, arboreal snakes and amphibious reptiles were little disturbed; it was those which were forced out of their element that were in serious straits. Nearly every floating bunch of drift or buttressed trunk, was a-creep and a-crawl with reptiles and animals, and where these were not half drowned or cowed with fright, mastery of the refuges had been a matter of the survival of the fittest. Where snakes were in possession, they were usually of one of the venomous species. We repeatedly saw bush deer, peccaries, capybaras, and even armadillos take to the water rather than risk attack by fang. Alligators were everywhere but invariably scattered to give clear right of way to the splashing bullocks.

On one short section of floating log we captured a huge hairy bird-eating spider, just finishing killing what looked like a young raven. The bird had evidently been pounced upon as it alighted on the half-submerged log. Its body was still warm. The spider, an *aranha Caranguejeira,* resembled closely in general appearance the tarantula of our arid southwest. In size, however, it was twice the diameter of any non-tropical spider I have ever seen. Even with the legs slightly drawn up after being chloroformed, it was more than the size of a man's outstretched palm.

The only animals that did not show concern over the imminent presence of snakes were the anteaters. We saw them nosing around busily on several islands of refuge on which we identified both vipers and corals. The snakes appeared rather inclined to edge away from the hirsute monsters, which took little notice of the reptiles even when one of the "eaters" was carrying its young on a pick-a-back ride. Dr. do Silva said that some of the jungle aboriginals claimed that an anteater would mess up the coil of a *jararaca* with its hairy tail, and then swing and tear it to pieces with the long claws of its tremendously powerful forelegs. He had never seen this happen, nor did he know definitely whether or not the "eater" was immune to the venom of snakes as it was to that of ants, which made no impression even on its tongue.

Many tree snakes were seen—frequently of amazing slenderness and interminable length—as the ox-drawn water chariot was pulled through thickets or low-hanging branches. One of these, green as a new-budded leaf, was dislodged to fall across the shoulders of a peon riding on top of the canopy. Recognizing it instantly as a common harmless species of no value to collect, he gathered its unresisting length into a double or triple coil like a lassoo, and flung it down among the women and children in the bottom of the big dugout. There was a squeal or two, and then a girl of eight or ten picked up the intruder and coolly dropped it overboard.

There was one potential eavesdropper, however, that the men treated with wholesome respect when its sage-green red-speckled length appeared dangling by its prehensile tail from the leaf of a slanting palm under which we were passing. When Dr. do Silva recognized the rather rare Schlegel's Palm Viper, he had one of his snake-wise assistants hook it down and transfer it to a rubber-coated sack. This is a highly venomous snake of the *Bothrops* group. The fact that a man cutting a jungle trail may be struck on the face or bare back makes the several varieties of arboreal vipers a serious menace to those so exposed. This *schlegelii,* because of a pair of spiny scales which stand up like horns on top of the head, is sometimes called the "eyelash viper."

It was not long before it was evident that my hopes of seeing an alligator bagged by being blown up with an animal bomb were doomed to disappointment. This was due solely to lack of the proper ammunition. 'Gators abounded in numbers I had never dreamed of, but none of the several Indian families we picked up from their submerging homesteads had saved any domesticated *yaccas.* It would be easy enough to capture a wild one where it backed up a buttressed trunk above its drowned out burrow, but it would certainly expend its "explosive" in the excitement of the chase and so be quite useless as a "bomb." Only a man-broke *yacca* would hold its charge until the psychologic moment for proper action, and such a one had to be taken young and reared around the home.

Dr. do Silva was scarcely less disappointed over the news than was I. Hearing apparently well authenticated accounts of 'gator-bombing for years from farther up the Amazon, he had never yet been able to stage an entirely satisfactory demonstration on the delta. The Tupis claimed to bring it off successfully, but there had always been something wrong on the occasions on which he had been present. He had been hoping for better luck this time, for his own sake as well as mine. The way the thing works when all goes according to plan, as outlined that evening by the manager of the *fazenda* who claimed to have been a frequent witness of this ingenious system of taking spoils by stratagem, is about as follows:

The little beast called *yacca* by the Tupis and *zorrino* in the Spanish-speaking tropics, he explained, was probably a species of tropical skunk. The principal difference between it and its northern cousin was, as in the case of the Amazonian rattlesnake, that it had a more powerful weapon of defense. A disturbed *yacca* could be detected a mile or so to leeward by the smell. So volatile was the protecting liquid it secreted that a drop or two evaporated in a few seconds to a gas of many cubic feet in volume. The normal reserve of the potent fluid was several ounces, and this was believed to be more than doubled under stress of excitement.

The Tupis have found that by taking the young of the *yacca* a few days after birth—they are found in litters of a half dozen or more in the gnarled buttress roots of the jungle trees—rearing them with pigs, puppies or kittens, and afterward keeping them away from all disturbance in close confinement, they may be brought to maturity upon the home premises, and even handled, without unpleasant consequences. This enables the resourceful aborigines to keep always on hand a supply of their favorite alligator bait, or, more exactly speaking, ammunition.

Through a fortunate provision—fortunate for the Indian, not the *yacca* or alligator—the *yacca* rarely appears near water, for which element it appears to have considerable antipathy. Because of this, the 'gator has never learned, except in individual instances, what a nauseating potion this tempting looking ball of plumpness really is. So he invariably snaps it up without an apparent shade of suspicion the instant he sees it struggling in the water, where it has been thrown by the benevolent savage who is waiting unobtrusively upon the bank.

The whole success of the plan hinges upon the manner in which the *yacca* is ingested. If it is masticated to any great extent before being swallowed, the silurian gets nothing more than a severe stomach ache, and perhaps a lesson in not being too hasty about snapping up every wriggling ball of fur he sees. But just as sure as the greedy 'gator bolts the *yacca* whole his name is "steak."

Among the Arctic whalers there is a practice of shooting a certain species of whale, which has not enough blubber to float on its own, with a composition chemical bomb releasing a sufficient amount of gas to give the body of the monster the desired buoyancy. If he starts sinking after this, he is connected up with a compressor on the whaler and pumped full of air.

All that the bomb and the air do to the dead whale the *yacca* does to the live alligator. The arrival of the little beast in the latter's stomach is the signal for the turning of that organ into a gas factory, the generation going on so fast that the surprised reptile soon finds it difficult to remain submerged. Vainly it tries to burrow into the sticky mud of the bottom. A mysterious force against which its great strength is of no avail is tugging it upward. Before long a bulging back begins bobbing above the surface. Higher and higher it pushes out of the water as the generation of the nauseous

Alligator killed by animal bomb on the Amazon

gas is accelerated by the maddened struggles. Gradually the scaly yellow-white abdomen inflates to the proportions of a small balloon.

The helpless monster is now easy prey for the Indian at any time the hunter cares to dispatch it. But the delighted savage, grinning in contemplative ecstasy from the bank, usually prefers to tickle his artistic senses by letting nature take its course. The distended ball grows bigger and bigger. Broad wriggly lines of tensely drawn skin appear between the normally closely overlapping joints of the spiked armor. Suddenly something seems to have exploded inside the wallowing mass, for the inflation increases so rapidly that the eye can mark its progress.

Now, except for the sharply snapped jaws and wildly thrashing tail, the body is almost resting upon the surface of the water. Presently some vagrant puffs of up-river breeze get behind it and drive it out of the shade of the overhanging trees of the bank and into the full glare of the tropical sun. As a tethered balloon tugs more sharply at the ropes which hold it to the ground when the sun appears from behind a cloud, so the gas in the unlucky silurian, sharply expanding in the increased heat, tugs upward at the inert mass which confines it. One may have time to note the distended middle straining to drag the cumbering head and tail after it from the water, before a sharp report, like the bursting of an auto tire, rings out, and the repulsive mass collapses before one's eyes.

A few moments later the Indian, his face muffled in a wad of wet grass to mitigate the fearful odor which asasils his nostrils, runs alongside with his canoe, makes fast to the now feebly twitching tail, and shortly comes towing the makings of a two days' barbecue through the backwater to the bank. The Tupis gourmets aver that this method of slaughter has no deleterious effect whatever upon the flavor of steaks cut from a 'gator so killed. If anything, rather to the contrary in fact.

CHAPTER XVI

NIGHT RIDE DOWN THE STYX

A Witch and Her Hell-Spawn Sons Show the Way to Escape Starvation at the End of a Jungle Traverse of Wildest Oanama.

THAT Stygian drainage ditch did not, like its classical prototype, lead to the environs of Hades. On the contrary, indeed, its dark jungle-stained flood offered the last remaining avenue of escape from a situation which itself threatened to develop into a near-inferno. Trying to cross highest and widest Panama on foot, with only a brace of stout Indians to carry our loads and cut a precarious path through the jungle, we had come to the end of our food at a point far removed from our original destination, the United Fruit Company's banana plantation at Almirante, on the Caribbean side. The "Styx" was our *dernier ressort*—the only alternative to slow starvation on jungle roots and juices.

It was the thinness of the morrow's ration that finally put an end to the farce of following the route of the future *camino real* to its Caribbean portal. When we put it flatly to the Indians (over the last four prunes) whether or not there was a chance of reaching the end of the trail before dark of the next day, they shook their heads decisively and admitted that it was quite impossible. Even though we were not many miles from the shores of the *laguna* in a direct line, the way still continued over mountains and valleys that would be no less difficult to pass than those already behind us. If we had food it might be done in two days; weak from hunger it might well run to twice that time. Since the *caballeros* were not used to living on roots and bark, it might take even longer unless help came from Almirante.

As the best way out of the difficulty, Headman Anisette suggested that we turn off at the headwaters of "Punkinriva," which we could reach in three or four hours, and then wade down the open bed of that stream until the first of the native farms was reached, some *kilometros* below. From there occasional *rancherias* were to be found all the way to the *laguna,* and at one of these men and a *cayuga* might be secured to run us down to the mouth of the river, or perhaps on to Bocas del Toro. If *el rio* was in flood we might have to swim a few strokes at some of the bends, but there would always be shallow water along the sides of the bars. And the 'gators could usually be prodded off with a stick.

Though floundering down some miles of snag- and reptile-beset tropical river was hardly the sort of thing one would pick on for a pleasure jaunt, it promised so much quicker and simpler a solution than further foodless clamberings through the interminable jungle that we plumped for it without hesitation.

That last jungle camp was the pleasantest of the whole traverse from the Pacific. On a well-drained mountainside, at an elevation of a couple of thousand feet, there had been enough clearing to uncover a patch of sky overhead. Streaking across this with vivid flashes of rainbow-brightness, pairs of macaws and parrots winged their way roostward after a day of bug-hunting. Blank silhouettes of bats joined the parade as twilight deepened. Monkeys, attracted by the camp clamor and the smell of the cooking, chattered in the branches overhead, and, *liana*-suspended, swung back and forth like animated pendulums.

The whole mountainside seemed teeming with animal life. Surly knots of *javelinas* had been disturbed at their rooting at a number of points along the trail as we descended, and that there was any kind of trail at all was due to the fact that tapirs had been keeping open the path as originally blazed by frequent migrations. Ramon, returning with water from a spring in the gully below, reported fresh tracks of a *tigre* and the crushed bamboo where it had fought with a *danto.*

Baron and I, for want of any other way to celebrate the Thanksgiving dinner we were missing, built a bonfire from the prostrate trees of the clearing. It was slow work getting the damp hardwood logs started but, once well alight, they were set for all night. The monkeys were furious over the outrage, especially the "howlers," which fairly set the jungle a-tremble with their raucous roars. Save possibly two or three varieties of bullfrog, no creature in the world makes so much noise for its size as the howling monkey. The thunderous sound belched from the distended throat of an animal no greater in weight than an under-sized dog has about the volume and quality of the roar of an African lion. The amplification to a roar of what would otherwise be no more than a sharp yapping is effected by what are commonly called "howling-bones" in the throat of this vocally belligerent primate. These, expanded by connecting membranes and working on the principle of a loud speaker, magnify the squeak entering from the lower end of the larynx until it wells forth to terrify the jungle in a roar like that of the King of Beasts. This shattering blast of sound is, of course, Nature's gift of bluffing defense to a comparatively helpless animal.

Some time during the night I was awakened by a large animal crashing through the dry brush of the clearing. Peering out under the thatch, I saw two bright eyes gleaming in the darkness, and presently, by the light of the flicker of flames still playing under the logs, the form of a huge tapir. It had stopped a few yards from the fire and was standing, sniffing and wagging its head up and down. After a minute or two it turned and walked off along the mountainside, apparently at a much more leisurely gait than that at which it had approached. While this proved nothing about the tapir's traditional hatred of fire, it did seem to indicate that this strange jungle animal, far from being afraid of flames, appears even to be considerably intrigued by them.

Just before setting out in the morning Baron checked over

Fording the "Styx"

his aneroid readings for the traverse, to prove that in those short days of jungle-cutting from Boquete we had ascended something over thirty thousand feet and descended over thirty-one thousand—something more than the height of Mount Everest. Even the voyage down the gloomy "Styx" failed to hold any terrors after that spell of jungle torture.

Half way down the mountain the men threw off their packs with yelps of delight at the foot of a large tree trunk deeply scarred with a herring-bone pattern of old *macheté*-cuts. Here was heaven-sent relief from our hunger, they assured. This was an *arbol de leche*—a milk tree—the tapping of a small specimen of which had brought relief to their sagging bellies the previous day.

A half dozen angling slashes sloping inward to a central channel brought a thin trickle of white liquid running from the lip of a curved palm leaf wedged in a notch at the bottom. A cup was filled in less than a minute. The sap was about the color and consistency of evaporated milk and of not unpleasant tastelessness. Baron, who had drunk the stuff frequently on previous jungle trips, said that, while it was harmless and might keep life for a while in a starving man, he doubted if there was much real nourishment in it; but the cup I quaffed here certainly stayed the gnawings of hunger for several hours, and with no ill affects whatever.

Down and still down we went, the air growing stickier and hotter at every step. Where the blazed route swung off to the left to begin another ascent, our guide turned to the right, slashed through a thicket, jumped down onto a gravel bar and announced "Punkinriva!"

Pumpkin River, with a number of other natural features on or near Chiriqui Lagoon, gained its name during the period when Bocas del Toro was the main port of the banana trade and English was the prevailing language. It flowed sixty feet wide and of moderate depth where we came to its headwaters, but was doubled in size by a tributary coming in a mile below. The touch of the moderately cool water was soothing to tired feet after the hot jungle path and progress down along the bars was pleasant enough until my shoes began to disintegrate and admit clay and gravel. The application of a couple of yards of adhesive plaster, to keep the soles from flapping off, was the best that could be done in the way of cobbling under the circumstances.

Just below the forks we met an old Negro, whose only garment was a fragment of a shirt, urging his spindling legs up against the current. He claimed to be a "Jamaica mon" and a speaker of English, but the jargon he jabbered was so unintelligible that the most we could make out was that all the men and boats had gone down the river with fruit the day before and would not be back for some time. They always stayed for a *baile* at the *Chino* trader's after they got their money, and they would have imbibed too much *ron blanco* to be fit for arduous up-river work for a while.

The river augmented in volume as we proceeded, with the crossings deeper and harder to ford. At the first *rancheria* we reached, a naked woman washing clothes on the bar grabbed up her baby and fled at our approach. From a safe distance the fugitive informed Anisette that all the boats of that immediate neighborhod were down at the *Chino's,* but that, about four bends below, there was a place where a *cayuga* might be had. But the boatman was a veritable *diablo,* more likely to drown us than not. Neither boat nor woman was safe in "Negro's" hands. She came out into the open to reiterate that final warning and to wave us a pious *"Adiós!"* Rather a comely *muchacha*—according to the image in my eight-power binoculars.

A man spearing fish from a small dugout offered to sell us his bag, but we hardly had the time to stop and cook. The deepening river forced us to the high banks most of the way now, but always to find some sort of a trail affording a passage through the walls of vegetation. A shoulder-deep wade took up across to the farm to which we had been directed. It was a comparatively pretentious place after the primitive *ran-*

cherias of the upper river. Several acres of *cacao* and bananas covered the well-cleared bench, and on the rising slope above was a house with several sheets of galvanized iron interspersed in the thatch. Two good-sized scows were tied up at the landing but no canoes.

The acrid smell of drying *cacao* assailed our nostrils as we approached the house through the trees, likewise the pungent order of the boiled-down native rubber that was being applied to waterproof a sheet stretched taut in the sunshine; but the perfume which interested us most at the moment was wafted in the steam from a black pot of *sancoche* simmering on the coals in the cook-house. Ramon's sensitive nose sniffed the *javelina* in it before we saw the dogs fighting over the tusky head of a boar.

The first negotiations were for that savory stew, and each of us had wolfed two or three pannikins of the delectable mixture before the matter of boats was taken up. The head of the family was away, it appeared, taking with him all the *cayugas*. The scows were for high-water transportation only, and could hardly be got down anyway through the jams of logs that had blocked the river since the last flood. Only the hell-possessed Gonzales boys could shoot a scow through the narrow tunnels that had been cut in the log jams. Those *diablos* could run the rapids and the jams as well by night as by day. They couldn't be drowned any more than they could be killed by gunfire, disease or snake-bite, which was probably because their old mother was a *bruja*—a witch—and had sold them, along with herself, to the devil.

But, unless we were willing to wait three or four days for the men who had gone with the bananas to come back, the mad Gonzales spawn were our only hope. They preferred hunting and love-making to raising fruit, and so rarely made the weekly visit to meet the "pick-up" launch at the *Chino's*. It was three *kilometros* down to the Gonzales *rancheria,* and we would have to walk by the hillside trail, since there was no canoe available to take us by the river. They would gladly send a boy along to show us the way. But we mustn't blame them if the young hell-hounds wouldn't boat us out. One of them had been bitten by a terrible bushmaster a week back and the old lady hadn't been able to pull him through as readily as usual. We'd probably find her in a beastly temper over it. The *bruja vieja* was very touchy over the workings of her snake-bite dopes and charms. Thus our friendly but somewhat garrulous riverside ranch hosts.

The narrowed river was no longer fordable without swimming. The well-trodden trail led down the right side for a couple of miles, with occasional clambers over ridges where the swift current undermined the encroaching hills. At last we reached the water's edge, where our young guide untied a square box of a scow and ferried us across to a landing on the opposite side. Following a couple of yapping curs that backed up out of club-swing, we came to a well-built thatched shack standing on a little knoll. Perched on the bamboo rail of the porch, surveying our approach through gimlet-boring black eyes, was a wizened hag, crinkled and yellow like old parchment.

"Witch is the word," laughed Baron. "Did you ever see anything more suggestive of a spider waiting for a fly to walk into its net?"

But pouncing on her victims evidently was not a part of the little old dame's present strategy. Bidding us *"Muy buenos dias"* in a voice that crackled like the burning of dry twigs, she said she already knew why we had come to her, and that we could make arrangements for a boat as soon as Negro came in from the mountain. Negro was her eldest son, and the strongest, now that Pinto was still weak from the bite of the bushmaster. She had cured him many times from the bites of the *barba amarillo* and the *tomago,* but the terrible bushmaster was more difficult. That was a veritable *culebra del diablo,* for it followed its victim and struck again and again, never exhausting its fount of venom. Would the *caballeros* not do her the honor to come and look at the *pobrecito?*

Pinto was hardly a "little thing," but he was surely an object of pity. Heir to most of the diseases of his mongrel jungle race, he was all but handicapped out of the running from the start in a fight against snake-bite. The "painted" skin which gave him his name was a legacy from a diseased ancestor; also the syphilis which showed in the bony cranial structure and the patchy hair. An almost saffron yellowness of skin was tinted by the brushes of malaria and jaundice. The pitted nose and cheeks were from smallpox. Cicatrices on forehead and shoulders were the marks of *machetė* slashes; patches of scar-tissue on the trunk and legs were the remains of countless bites and scratches that had run their courses as jungle sores. The previous snake-bites were clearly marked by sunken tissues. The present one saturated a dirty rag with its continual discharge. A dozen other sores—sympathetically affected, doubtless—were open and uncared for.

The wretched creature, gazing past us with glazed unseeing eyes, continued his crawl across the split-bamboo floor toward a calabash of dirty liquid standing in a corner. The bitten leg trailed limp and helpless, evidently quite lifeless and dead to action and sensation. The big gourd bowl contained Pinto's medicine, his mother explained. Yes, it had a bad taste and smell—this as a cur sniffed at the nauseous mixture and turned away in disgust—but by crumbling lumps of *dulce* in it and keeping other food away from him, she was able to make the *pobrecito* swallow it now and then. If we would excuse her, she would go on with the preparation of the ingredients of a fresh bowl. This was Domingo, the day of which a new dose for the week should be made ready.

There were a lot of odds and ends of herbs and dried skin or flesh lying on the floor where she squatted, but the only item I identified beyond doubt was the desiccated body of a small lizard. The shrill voice crackled as she crumpled up the odorous fragments and began pulverizing them in a big wooden rice-husking mortar.

Not in the whole length of the *laguna* was there another the equal of *"Mamita"* Gonzales in curing snake-bites, she assured us proudly. She was the only one who never failed if only the buen Dios gave her a fair chance. But this time The Merciful One had imposed the one fatal handicap, and she feared it would be impossible to overcome. Pinto had progressed wonderfully the first three days after he was bitten. Then the young Ramirez girl, from the next *rancheria* down the river, came to see him, and from that day his decline had set in. The reason of it became plain when Pinto confessed that Lolita was already two months along with a child of which he was the father.

After that there was only one hope. If a miscarriage occurred Pinto would speedily recover; otherwise he must die. So far, to the benevolent old lady's great indignation, the obdurate Lolita had steadfastly refused to take the medicine *"Mamita"* had prepared to facilitate the greatly-to-be-desired consummation. But just wait a while. There was more than one way to make a stubborn hussy swallow things that were good for her. Take that Jamaica kid of the *Chino's*. . . .

We were evidently about to hear something of the way of a witch with a maid when the return of another son interrupted the garrulous discourse. The newcomer was hailed as Moreno, "The Brown One." (*"Mamita"* apparently depended upon a chromatic system of nomenclature in christening her offspring.) He had been out raking over the drying *cacao* beans but, like his mother, knew all about our need of a boat before we explained it. It was an awkward time for two of them to leave, for on the morrow the moon would be at exactly the right stage for their corn-planting, and this could not be postponed. But if the Ramirez boys would come up and put in the seed, he thought it would be all right. They would take us down to the mouth of the river for five dollars, or all the way over to Bocas for fifteen. But we must wait for Negro's return before making definite arrangements. The elder brother was the *capitán* of the scow.

As Baron and I went to the landing to take a bath, prelimi-

Indians of the Pumpkin River with fishing outfit

The scow in which we made the night run down the "Styx"

nary to a shift of togs, a remarkable figure loped down the opposite bank and came poling across in the ferry scow. Its only garment was the waistband and a few inches of the legs of a pair of overalls. On its tousled head was a fore-and-after cap of the Sherlock Holmes vintage. At the belt were a *macheté* and a revolver. Over one shoulder was an old Winchester; across the other was slung the carcass of a freshly killed boar. Never have I seen a human being that moved and looked so much like a cat—and a real mean, night-prowling tomcat at that.

It was Negro, the Nimrod, of course. Like his mother and brother, he promptly told whence we had come and whither we wished to go, and how. In fact, he went the others one better by addressing Baron and me by our own names. All of which was not uneffective until, in the course of subsequent discussion, it was let slip out that a searching party, sent from Almirante, where there was some anxiety over our nonarrival, had come down the river the previous day. It was evidently an angle of the witch-game stuff thus quietly to garner little odds and ends of information and casually turn them to advantage later as opportunity offered.

Beyond demanding ten dollars more, as insurance against their maize crop being ruined by missing the proper stage of the "planting-moon," Negro was quite willing to take us through to Bocas as tentatively arranged with his brother. Twenty-five dollars for less than two days' work was no end of a hold-up, but there was no alternative to paying it if Baron was to catch the boat for Cristobal. My own feeling was that, if the rascals could take a boat down that rapid-torn and log-jammed torrent in the dark, the show would be worth twice the money. And so it proved.

No attempt was made to take advantage of the couple of hours of daylight still remaining to make a start. Negro was tired and hungry, his mother said, and must have rest and food before setting out on so hard a voyage. Besides, night and day were all the same to him anyway.

And so there was leisurely cutting up of the wild pig, the slow stewing of a *sancoche,* the deliberate grinding of corn and the baking of *tortillas.* We were hungry enough to enjoy the meal anyhow, but it would have been a bit more zestful had there been less of a reek of disease around the place. Both of our boatmen, to say nothing of the wrinkled old hag herself, showed marks of every ill or malady that had blotched or scarred the stricken Pinto. The only difference was that all of their snake-bites had been "witched into wellness" and they were going concerns. But not dainty table companions.

It was nine o'clock before we went down to the landing to push off. The old lady kissed each of her boys an affectionate *adiós* and cackled a blessing for the whole enterprise. If the moon of the corn-planting was anywhere around, it had no effect in the jungle. There was Stygian blackness blanketing the spreading *cacao* grove, with just an occasional flash of a reflected star from the river below.

The scow proved to be a rectangular box, twenty feet in length by five in width, with one end sloped up to form a bow. It was stoutly built of whipsawed boards—apparently some kind of jungle wood that looked solid enough to sink of its own weight. Negro's navigating bridge was a single board running across the bow, from which he pushed and fended with a pole. Moreno worked a stubby steering sweep at the stern.

Passengers and cargo were stowed by lantern light. I was considerably reassured when I saw that a good part of the family arsenal—rifles, shotguns and revolvers—had been brought along. This stock of valuable non-floatables indicated that an upset was not contemplated as a matter of routine. Apparently, too, there was a chance of shooting along the way. How game was to be located in the darkness I could not surmise until Negro switched on his jack-light to clear the snag-fouled painter. This was the usual arrangement of an electric bulb and reflector on the forehead, taking its power from batteries worn in a belt around the waist. Its use is, I believe, banned in most countries having game laws, on the ground that it does not give the blinded animal a sporting chance, just the feature, of course, that would commend it most highly to these ruthless jungle pot-hunters.

In this particular instance the "jack" was primarily an emergency navigating light, with its use for shooting anything more animate than rapids an incidental consideration. When they were out for a real bag, Negro explained, they would run down the river in the dark before the dawn, gunning as they went. Then they would turn back and pick up their game by daylight. Anything they did not pick up at once this voyage would be gone or spoiled before they came back; but there was an old *tigre,* who lived at a certain bend, where they occasionally upset, whom they were after just because he was their enemy. He stole their game right along and they were sure he lived in hopes of fishing their bodies out of the eddy at the foot of the rapid when their boat broke up on the rocks, as it would have to do some dark night. So they never let anything interfere with letting off a few shots at *el tigre diablo's* fiery eyes in passing.

The character of the anthracite-hued flood into which we shoved off was changed greatly from the river down which we had waded. There it was broad and shallow, sprawling between long gravel bars; now it flowed, deep and swift, under closely confining hills. That there must be rough rapids somewhere below was evident from the fact that our aneroid indicated over a hundred feet of descent before reaching sea-level. With long stretches where the fall was slight, this meant that there must be very fast broken water at others to compensate. Running that sort of stuff in practically absolute darkness was something new in the river experience of both Baron and myself.

With the overhanging jungle trees not meeting overhead for a while, there was enough leakage of starlight to adumbrate the dusky loom of the banks and the polished ebony surface of the undulant water. Negro, too wise to blind his feline eyes with light until it was imperatively necessary to disclose the way, kept his "jack" for emergency.

For a quarter mile the boat drifted smoothly and swiftly, its head held to the course by the steering oar. Then speed accelerated in a narrow chute where the ghostly tops of white waves raced past the gunwale with a gurgling ripple. Just deep, fast water, one's river sense told him; the waves were too smooth to be formed by rocks or snags. Then, suddenly, the slight penetrability of the vista ahead changed to the solid opacity of the banks.

The *capitán* spat an order which was answered by the swift flailing of the steering sweep. The boat lurched as the bow pole hit something hard, and then the blackness became solid, palpable. Leaves brushed our face and warned us to bend low against sharper impact. Lurching increased; also the speed. Then there was a soft bump or two, and the scow was flowing again in quiet water arched over by a scintillant canopy of stars. We had run the chute cut through a huge forest tree which had fallen all the way across the river. Being near home and knowing his bearings to a hair, Negro had hit the narrow hole without recourse to his light.

The imminence of corn-planting time was not a fiction. Steering in to a landing below, where a flutter of yellow firelight outlined the fringe of a roof of thatch, the iterated "hoo-hoo" of an owl brought several dusky figures shambling down to the riverside. These were the Ramirez clan. When a couple of the men, after some dickering, agreed to terms upon which the needed work should be done, the Gonzalez duo gave explicit directions as to just where the moon shadows of the jungle wall should lie when the first grain was put into the ground, and where it must not be allowed to reach before the last row was finished. It was an entirely serious bit of business.

Before pushing off Negro chatted for a few moments in the shadow with a girl who had followed the men down to the landing.

"L'lita, swellest kid on river," he elucidated in fluent Bocas idiom as he teetered back along the gunwale to the bow. "Used to be Pinto's *novia* but now mine. *Calienta niña*—warm baby."

One wondered whether he was the old witch's ally in the matter of curing Pinto's snake-bite, or whether he was free-lancing on his own.

Presently, as a broader ribbon of stars overhead indicated a widening reach of river, the water began to shallow and speed up. Patches of greenish-white where hidden rocks came near the surface brought the strong phosphorescence of the water to my attention for the first time. The prod of the bow pole exploded a vivid splash of pale fire; the flailing sweep set a floundering green dragon in pursuit of the boat. Snags, rocks and other obstructions sported a glowing down-river-wagging tail. This natural illumination tended to grow stronger the farther we fared down that sector of the river fed by seeping jungle water with its strong impregnation of rotting vegetation. Having the effect of putting a glow beacon just where most needed on every obstruction, it was an incalculably valuable help to night navigation.

When a heavy sustained roar from the darkness ahead heralded our approach to the first real rapid, the temperamental skipper cut short the antics with which he had been amusing himself and his passengers and settled down to serious navigation. Up to this moment he had spent most of his time doing a sort of "Devil Dance" back and forth along either gunwale and across the plank of his "bridge," shooting a beam from his jack-light athwart the banks in the quieter stretches and occasionally sending a crashing volley into the dancing golden mote if the back-flash of gleaming eyes indicated a deer, pig, *tepescuinte,* or other edible prowler. He professed to be making mental notes of the exact location of every kill, so that he could direct his friends, who would be returning from the *Chino's* in the morning, where to pick it up.

But now posturings and horseplay were at an end. As the boat slid over the rocky barrier at the head of the rapid the catlike poise of the crouching figure on the bow was dimly silhouetted against the dull green glow of the broken water below. With pole firmly grasped in the middle, and knees bent, the posture was singularly like that of a doughty quarterstaff battler of the days of Robin Hood. But no burly Scarlet or Friar Tuck could ever have struck and parried with the flashing speed of this human cat.

The channel was narrow and winding between boulders that reared above the torn water on either side. The lynx-eyed captain maneuvered the boat as much as he could with the steering sweep, using the pole only as a last resort. A staccato of sharply snapped orders kept the agile Moreno jackknifed across the sweep handle, throwing the bow now this way, now that, as rock after rock—each in the heart of a welter of glowing green foam—loomed up in its path. Only when collision was otherwise inevitable did the pole stab out into the darkness, and always to turn the trick. Bump we did, of course, every now and then, but never solidly enough to shatter a plank or even start a seam.

The action was too fast to follow, to say nothing of attempting to describe. The balancing of the lunging figure was positively hyperfeline. To the ordinary run of bow-men, missing a rock with his pole means hitting it with his boat; also falling overboard. Negro stabbed into soft water above a sudden shelving bottom a dozen times and failed to recover only once. But he had flopped back out of the flaming water, almost into my lap, in the wink of an eye, and was ready on the bow before the next rock menaced. Never have I seen such supersimian action by a human foot as when he reeled back along the narrow gunwale. I had snapped on my electric torch to guide the pilgrim on his way, and the beam of it disclosed the long muscular toes grasping either side of the half-inch plank like the fingers of a clutching hand.

There was quiet water at the foot of the rapid but it was badly obstructed by a number of trees which had fallen in such a way that it had not proved practicable to open a clear channel through them. Negro switched his light on here and worked along as best he could with the aid of its guiding beam. He rounded the end of one tree by pulling the scow ahead through its light top branches. I got a garland of orchids around my neck in the course of that operation, and some biting ants down my back. Anisette drew a lizard for his prize, and when he clawed the visitor out of his hair the amazing creature sped away across the surface of the river. The natives, laughing, said it was a *lagarto Jesus*—a "Jesus lizard"—so called because it could walk on the water. The legs, with their flat feet, moved so fast that not even the belly or tail ever got wet. When Moreno supplied the cue for saying that the little reptile was greatly esteemed for healing purposes, memory identified the specimen I had seen being pulverized for Pinto's bowl of snake-bite dope.

The worst barrier here was a trunk, ten feet in diameter, which stretched from bank to bank almost at the surface of the water. Too formidable to be removed by chopping, this obstruction compelled the banana boats to portage around on the bank. The wily Negro avoided this in our case by actually forcing his craft under the trunk at a point where it cleared the water by less than the height of the gunwales. This "sleight-of-scow" trick was performed by having us all lie flat on our backs and depress the boat by pushing upward against the trunk as the soggy box was edged along under, inch after inch, by the current. Most men who have run brushy rivers have done the same sort of thing with canoes; with a scow, and in the dark, it took very nice handling to prevent one of the gunwales being forced under water to send the whole outfit to the bottom.

There were three or four more rapids that made for lively going, but none so rough as the first. Fallen trees, with their upstream islands of drift, were always with us. For a man strange to the river these would have made for very slow, tedious going, even in the daytime. Negro, knowing all so well that he had pet names for most of them—singularly apt, frequently, but unprintable in translation, unfortunately—kept plugging right along through the night. Most of his shooting was done more because he could not resist the temptation to blaze away at a pair of gleaming eyes than in hope of ever recovering the quarry. One shot—at the pet cat of a certain *rancheria*—was fired in settlement of a back score. That particular *gato* had beaten him to a revolver-hit rabbit once. It was really a baby *tigre.* He would take the hide back to his dear old "Mamita" if it could be found on his return trip.

The bend where the big robber *tigre* had its lair proved a blank. The only eyes flashing back at us were those of a rabbit and a big 'gator crawling along the mud of the bank. Because their carcasses would only make a banquet for his *jaguar* enemy, Negro would not shoot at either prowler. One of his shots, at a single eye in an overhanging tree ahead, he said was at a boa. Something certainly did fall threshing into the water, but when we passed I could not be certain of anything more boa-like than a severed length of *liana.*

Between three and four hours had gone by, with perhaps half of the rather indefinite distance to the mouth covered, when a lightning-shot wall of cloud began blotting the star-paved ribbon of sky above the river. From the interest and concern shown by the men, one realized that something more than a flight of migrating thunder squalls was on the way. Negro, easing in to the bank to cut wild banana leaves for umbrellas and cargo protectors, explained that a southerly storm at that time of year meant some hours of violent wind and rain. It was the kind of blow that always brought a lot of jungle trees down, and, while there was not much danger of being swamped by one of these, there was always the risk of having the river ahead blocked and being forced to wait until morning to cut a way through or around the dam of drift that the flood would pile against the obstructions.

The big drops were smacking as we pushed again into the current, and in a few minutes more out popped the plug of the heavens and down came the deluge. I have been in two or three cyclonic disturbances where there was a fiercer onslaught of wind and rain for a short period, but never have I been exposed for so long to so sustained a fire. Avoiding overhanging trees wherever possible, we took most of the bombardment of the rain direct; the wind only plumbed to our depths with sudden gusts and spirals of surging air. With the stars erased, it was sound rather than sight that told of the tumult in the branches above. The imminent machine-gun rattle of the rain drowned the more distant heavy artillery of the wind, so that the air-shaking crashes of the thunder and the heavy thud of falling trees were all that reached our ears above the splash of water.

Negro, all his posturings and prancings at an end, again navigated carefully and with a skill that was positively uncanny. Only when the boat stuck solidly against a snag or other obstruction did he snap on his light. Even then, so thick was the wall of falling water, the beam would penetrate only a few feet ahead, rarely reaching the banks unless the scow was close alongside. The slash of the drops beat up a slight glow of phosphorescence over the surface of the water, and this, so far as it was visible through the masking rain wall, must have been his main guidance.

The first tree to hit the river ahead of us was probably our closest call. Although the near-at-hand snap of severed roots and the rending of smaller trees preceded the climactic crash by several seconds, not a blink of movement was visible to us where we floated in the darkness, waiting for the blow to fall. It came with a blaze of light that not even the curtain of the rain could quench. The great limbs, gouging deep into the muddy bottom, threw up a gay fountain of phosphorescence that turned the streaming tunnel of the river into the momentary seeming of a crystal palace. Then Stygian blackness again. It was really not so close a shave after all. We were a good fifty feet above the nearest descending branch that was heavy enough to throw a dangerous wallop.

There were a number of live things struggling in the water under the beam of Negro's jack-light as we nosed down to test the barrier at its softest place—where the blue-flowering tree top brushed the left-hand bank. The risk of becoming entangled in limbs that were still in a state of unstable equilibrium was too great to permit of rescue or even identification, but I made sure that it was a very mad iguana that lashed the gunwale with its armored tail and that a wet furry back might have belonged to a *tepescuinte*—that delectable rodent whose meat is the one thing in the world that barbecues with more savor than young sucking pig. Since it was hardly a place and time to heat roasting-stones, I was less regretful of not being able to effect the simple capture.

Getting by was a deal easier than it looked when first that towering barrier took shape under the questing jack-light beam. With no solid wood against the bank, it proved merely a job for Negro's *macheté* and the push of the current. We popped out below in a few seconds, everything and everybody covered inches deep with fragrant blue bell-shaped flowers, each one of which harbored some sort of biting bee, bug or beetle. We got rid of the worst of the trash presently when Negro landed to dump a scow that was already awash to the gunwales with rain water.

Each of the five or six other trees that fell in the broadening river ahead of us left a comfortable channel on one side or the other through which to pass. The near-cloudburst volume of the downpour quickly brought a cataclysmic run-off from the slopes of both sides, so that the river was coming to flood stage as we rode seaward on the crest of the rise. Every flash of lightning revealed us floating in an almost solid pavement of leaves, twigs and driftwood.

The first hour of the storm was rather good fun. The uncertainty as to what might come tumbling from the heavens above or rising from the waters under the earth put a damper on monotony, while the magic of the night-navigation of the gay

Gonzali was—to me especially—a never ending source of wonder. But after Baron and I had sung twice over all the English, French and Spanish songs we knew in common, and after navigation was simplified by a widening and deepening of the river, sitting hunched up in from six to eight inches of water, with the air fluid with the same medium, began to be a bit trying.

Comfort was not increased when peltings of sleety drops from some frigid-aired clouds intruded to reduce temperature twenty or thirty degrees. Mountain man that he was, Anisette's muscular back was shivering through the swathings of banana leaves that insulated it from my own. Ramon's teeth rattled like castanets as he asked for a cigarette. Baron, who was an air pilot among his other accomplishments, swore he had never been colder at fifteen thousand feet. Only the active boatmen, naked and un-a-cold amid flying ice needles, did not slump to subnormality.

Gradually the current slackened, the blanker blackness of the looming forest walls receded, and then—all of a sudden—we were at the fringe of Chiriqui Lagoon. No longer broken by the jungle, the wind pounced upon us with savage fury. Short, steep waves, playing leapfrog at the edge of the shallows, knocked their heads off against the gunwales and drenched us with salty spray. In the dusky gloom to seaward a heavy continuous roar told where the waves were rolling in and breaking against the outer edge of the flat mud bar.

Although the pile-built shacks of the Chinese trader were less than a couple of hundred yards off shore, just where the water deepened to allow the banana "pick-up" launch and barges to come alongside, the unseaworthiness of our dirigible box made it impossible to reach it by a direct course across the bar. Only by skirting the mangroves until the narrow lane of smooth water in the lee of the piling was reached was there a chance to pull up to the rickety wharf without swamping.

Not a light showed anywhere about the sinister pile, but from the depths of the big trade room came the voices of a man and woman, raised in sleepy drunken argument—not about trade. A banging on the *bodega* wall brought a scowling yellow face to the shuttered window, and presently the door was unbarred by a resolute Chinaman with a shotgun resting unobtrusively in the curve of his bare arm. There was a tightening of the lines of the scowl as his flashlight threw a mellow disc on Negro's piratical phiz, but recognition of Baron brought warm welcome.

"We have been awaiting you for some days, gentlemen," said the *Chino* with a courtly bow, throwing wide the door. "My word, what a time you must have had. No end of a hue and cry for you. Mr. Miskel has had men out in the jungle, and the 'pick-up' launch was asking for you yesterday. Jolly hard luck to miss the Thanksgiving bean-o they had waiting for you at Almirante. Oh, I say—how about a Planter's Punch? Right-o! Good egg!"

The *Chino,* born in Jamaica and still a British subject, had been sent by his wealthy merchant father to a school of which an Oxford graduate was headmaster. Hence the Chesterfieldian manner and near-Oxonian accent. He was a right good sort, though—no end. Because the trade room floor, what from leaky roof and babies, was no place for gentlemen to sleep, he made us beds in his own snug quarters, getting out his cook at five to give us a warm breakfast before our daylight departure.

Two hours' sleep wasn't much after our continuous activities of the previous twenty-four hours, but it was at least a welcome pick-up. The men, forced to fend for themselves among the drunk, wounded and amorous residue of the late *baile,* reported a restless night. The predatory Negro emerged in the gray light of the dawn with a swollen optic and gashed shoulder; also a half-caste Indian girl with a bandaged head, whom he insisted on taking to Bocas del Toro to see the sights of the big city. Unfortunately for the Young Lochinvar who had come out of the East down the Pumpkin, the Chino's *cayuga* was already fully loaded with the outfit and personnel of his stern though sympathetic and admiring employers.

Bad egg, that *diablo* Negro, no end. Hell spawn, and no mistake, as even his nearest and friendliest neighbors had it. But if ever one of his stern employers has to stem the Styx, or perform any other baffling feat of navigation in the dark, that wild-eyed grinning devil can have the job of Chief Pilot. I have often wondered if glazed-eyed disintegrating brother Pinto went on dying from his bushmaster-bite—and whether it was "Mamita" or Negro who called the tune for the next number in pretty Lolita's "Dance of Life."

CHAPTER XVII

"HELL AND HIGH WATER"

Handling a Boat for the Geological Survey Through the Grand Canyon Gives Stirring Experience of the Way of a Flood with Colorado River Gorges.

TWENTY years elapsed from the time I first made the acquaintance of the Colorado in muddling down the intricate channels of the old Rio Hardy before opportunity offered to know intimately the deeply gorged mountain sections of the great Southwestern river through handling one of the boats of the Geological Survey study of the Grand Canyon, preliminary to the location of what was to be called Boulder Canyon Dam.

Just as the middle canyon region of the Colorado was the last extensive area of the United States to be explored, so also was it the last to be accurately surveyed. Over half a century intervened between the completion of Powell's second expedition in 1872 and that of the United States Geological Survey of 1923, yet in all that time very little addition was made to the remarkably comprehensive observations recorded in the reports of the pioneer explorers. Robert Brewster Stanton's Grand Canyon voyage of 1890 resulted in a complete photographic panorama of both walls of the great gorge, with detailed notes bearing on the practicability of constructing a railway line therein. Save this, and the Julius Stone voyage of 1908, all attempts to boat through the canyoned sections of the Colorado were undertaken by trappers, prospectors or photographers, for the purpose of personal gain rather than scientific observation.

This explains why the only maps of the Grand Canyon region in existence up to the time of the Geological Survey expedition were based very largely upon Powell's records. Probably the work of no other explorer of the nineteenth century —not even that of Stanley and Livingstone in Africa—had survived a period of fifty years with so little modification from the observations of those who followed. This was largely due to the fact that Powell's work, considering the difficulties under which it was performed, was extremely well done.

The reason that so little was attempted in the way of scientific exploration of the Colorado canyons in the half century following Powell's voyages is to be found in the fact that there arose in this period no great need of data not already made available by the pioneer navigator. When such a need did arise—in connection with plans for the control of flood waters and for irrigation and power development—the time had come for the resumption of effort by scientific explorers. Because Powell was largely responsible for the founding of the Geological Survey, it was particularly fitting that it should be the Survey that should take up and finish the work which the pioneer explorer of the Grand Canyon had initiated fifty years before.

Lieutenant Colonel Claude H. Birdseye, Chief Topographic Engineer of the Geological Survey, who was named to head the Grand Canyon expedition, had already established his reputation as an organizer. Lack of organization had wrecked more canyon expeditions than the rocks in the river; proper organization was the one best insurance against disaster. With this well-established fact thoroughly in mind, Colonel Birdseye was engaged all the previous winter and spring on the endlessly ramified details of outfit, personnel and schedule.

The theory upon which Colonel Birdseye worked was that every man and everything essential to the success of the expedition should be included, and that every man and everything not essential should be excluded. This line—a hard one to draw, especially in the matter of much that was desirable in a precautionary way in the event of trouble—was well maintained from first to last. The one hard and fast limitation was that of space, and when the number of boats to be taken was definitely decided upon, this could be figured out in cubic feet.

To do the work outlined for the expedition three technical men besides Colonel Birdseye were deemed an irreducible minimum—a topographic engineer, a hydraulic engineer and a geologist. A rodman, a cook and four boatmen—one for each of the boats—brought the number of the party up to ten. In emergency the expedition could carry on with one or two less than this number, but only by throwing a disproportionate amount of work upon the others. As a boat had to be sufficiently small and light for one man to handle alone in rough water, with a full load and carrying one or two passengers on the decks, the puzzle of stowage seemed a baffling one.

The party assembled at Flagstaff, Arizona, on July 15. The foremost men in their respective lines had been chosen for the technical work of the expedition. As topographic engineer, assisting Colonel Birdseye, R. W. Burchard was appointed. Mr. Burchard's right to the distinction of running the river line in completing the Grand Canyon survey was earned by the notable work he had already accomplished on the Colorado. This included the survey of the Boulder Canyon dam site as well as most of the river between the foot of the Grand Canyon and The Needles; also thirty-five miles at the lower end of the Grand Canyon itself. Of powerful physique, great endurance and a cool, steady head, Burchard was an ideal man for all phases of the rough work ahead.

Equally fortunate was the selection of R. C. Moore of the University of Kansas as the Geologist of the expedition. Dr. Moore owed his appointment to the fact that he was acknowledged first among the available authorities on the geology of the middle Colorado Canyon region. A former college athlete and a veteran of many a hard summer of field work in the desert west, he was in prime shape physically and

Rough water at the head of Gray Canyon

almost tireless under the hardest kind of physical exertion. As a passenger in my boat for the entire run through the canyons, ever ready to help in landings, linings, portagings, upsets, or anything else eventuating in the course of the day's work, Dr. Moore made my personal obligation to him a very real one.

The hydraulic engineer of the expedition was E. C. La Rue of the Water Resources branch of the Geological Survey, who qualified for that appointment through many years of specialization on Colorado River problems. The boatmen were two trappers and rivermen from the Northwest by the name of Blake and Lint, Kolb, a Grand Canyon photographer, and myself. Dodge, the rodman, was also a competent emergency boatman. La Rue, Kolb and I were to take still and moving pictures as opportunity offered. Roger Birdseye, cousin of the Chief-of-Party, was "Land Manager" of the expedition, keeping it supplied by pack train at the rare points at which contacts could be established during the voyage.

* * *

The mouth of the Paria, where our start was to be made, is one of the most historic points on the Colorado. Fray Escalante, searching for the ford which has since been called "The Crossing of the Fathers," camped here in 1776, vainly seeking a way to reach the left-hand bank of the river. The "great gray cliff" where his party starved on horse meat and toasted cactus fruits is readily recognizable. Powell, making an overnight camp at the Paria in early August of 1869, pushed off into the depths of Marble Canyon the following morning on the final stage of his pioneer voyage. He met neither Indians nor whites in the valley at that time, but three years later his second expedition found the Mormon renegade, John D. Lee, farming a patch of fertile overflow land above the ford which still bears his name. Lee was a fugitive from justice, being widely sought by the Federal authorities at that time as the instigator of the Mountain Meadows Massacre of 1857, a crime for which he was finally tried, found guilty and executed.

The Brown-Stanton party, surveying for a railroad through the Grand Canyon, halted and refitted at Lee Ferry in July, 1889, after losing much of their inadequate outfit in the rapids of Cataract Canyon. Three of the eight men of the reduced party were lost within a few days of putting into Marble Canyon, forcing the temporary abandonment of the expedition.

No place on the river has the power to awaken more memories of the past than Lee Ferry, but strangely little that can be touched save by the imagination remains. John D. Lee's first log cabin and his four-ways lookout on a point above the Paria are still there, but all we ever found that pointed to one of the early navigators was the name HISLOP, pricked in large block capitals on the red sandstone of the house occupied by the Government hydrographer. This could only have been the stout Scotch engineer, John Hislop, Stanton's right-hand man on both voyages. Hislop, after surviving the passage of the Grand Canyon rapids and several years of pioneering railroad work in Alaska, was finally killed by a street car while home on vacation leave.

The four boats to be used on the expedition, while differing slightly in size and details, were all of the flat-bottomed, decked-over type that is appropriately called the Galloway-Stone. The somewhat crude original was designed and built by Nathan Galloway, a Mormon hunter, for use on his lone-hand trapping expeditions to stretches of the upper Colorado canyons reachable only by boats. On the very sound theory that it is better to avoid a rock in a light boat than to hit it with a heavy one, Galloway sacrificed strength for handiness, and built a boat which he repeatedly ran single-handed through rapids in which the large, heavy boats of Powell and Stanton had encountered trouble.

When Julius F. Stone, an Ohio manufacturer, scientist and sportsman, decided to make a voyage to study the geology of the Colorado River canyons in 1909, he had Galloway come to his home in Columbus, where the two men put their heads together to build an ideal boat along the lines of that already used with such success by the Utah trapper. The present type of Grand Canyon boat was the result. It was entirely decked over except for a cockpit for a single oarsman, and weighed less than 250 pounds. Its length was 16 feet and its depth 16 inches. Our boats retained the lines of these originals, but were 18 feet long, weighed 800 pounds, with proportionate increase of depth and beam, and had double the cargo capacity of the prototype.

One of the many interesting things that the coming voyage was expected to reveal was whether or not this comparatively heavy boat was too great a departure from the light and handy original. The boats in which we were about to push off were three times as heavy as the first of the type, carried at least twice the weight of cargo and were expected to find place for three men. That is to say, there had been an increase of seven hundred per cent in weight without any increase in power. The latest boat had still to be handled by a single man. The Powell and Stanton boats, it is true, were much larger and heavier than these of ours, but they were manned by a minimum of three men each—two rowers and a steersman.

* * *

Our fortnight at Lee Ferry was mostly taken up in testing boats, instruments, life preservers and various other articles of the outfit, and a considerable amount of preliminary surveying. A folding canvas boat, to have below the rapids in case of trouble, seemed to promise real usefulness—as long as it lasted. Of the several designs of life preservers provided, the old cork type was the only one giving requisite buoyancy. Stuffed kapok jackets and inflatable rubber girdles just about kept a man up in quiet water. Real freedom for rowing action in a life preserver was a problem which would have to be worked out by experience. Something of the kind had to be worn in every bad rapid—that was the Chief's order, and a very sensible one.

A receiving radio—specially constructed for the expedition by the Bureau of Weights and Standards—was included in the outfit for two reasons: on the chance that it might bring us warning in the event of a flood descending from above and as a possible source of entertainment. The publication of an article in the most prominent of the early radio magazines the week we left Flagstaff provided a new line of interest. In this it was stated quite definitely that it was impossible to receive radio in any deep sheer-walled natural depression. As we were about to enter the deepest gorge of this kind in the world, an unparalleled opportunity would be offered to put this theory to the test. We had only four ear-pieces, but a magnavox improvised from a baking powder can and a tin funnel promised entertainment for a wider audience on occasion.

Nomenclature of the boats was a serious question, but after much discussion we decided to base it upon Colorado River canyons—gorges which we expected to pass through on the voyage. To the *Glen* was allotted the duty of carrying the cooking outfit. Blake was to be boatman and the cook passenger. The *Boulder* was designated as survey-boat, to be handled by Lint, with Birdseye and Burchard as passengers. The *Grand* was turned over to me, with Moore and La Rue riding the hatches. Besides geology and hydraulics, we were to specialize on pictures as opportunity offered. Kolb, with the *Marble,* had no passenger at the outset. Dodge was to carry the rod in the canvas *Mojave.*

After days of repacking and shaking down of outfit, we were finally ready for an early start of the morning of August first. The mountainous piles of supplies on the bank looked equal to taxing the capacity of a deep-sea-going freighter—

enough to swamp our diminutive shallops many times over. But the holds of these admitted an astonishing amount of cargo by careful stowing, and we ultimately succeeded in taking everything needed without having to remove the safety air-tanks to give additional room.

With their full loads, all four boats were well down in the water, especially the *Grand* and the *Boulder* which were carrying two passengers each. My boat seemed strangely slow in responding to the oars as we swung out into the current, but that was partly from the contrast to the way it had handled empty. As loads were the rule from now on, there was nothing to do but become reconciled to them. Every little while somewhere between a ton and a ton and a half of boat, cargo and men would have to be moved far enough one way or the other to avoid colliding with a rock or cliff. If they were not—well, it was notorious from the experience of previous voyagers that rocks can stand a deal more punishment than boats or loads or men.

It was a morning of bright sunshine on the river, but above the gay slash of the Vermilion Cliff piles of snowy cumuli were gathering for the afternoon thunderstorm. To the south the terra-cotta walls of the Echo Cliffs were etched with the cross-lights of the early sun. Astern of us the yawning mouth of Glen Canyon was a pool of purple shadow; ahead the portal of Marble Canyon was the beginning of a black gash cleaving the plateau like the wound from a giant's *kriss.*

Out of the dark and into the dark
With only a sleep between—

How well the lines described Powell's overnight camp at the mouth of the Paria! Even a boat that was showing an annoying tendency to work in toward the cliff below the old Mormon dugway could not quite take my mind off the pioneer canyon navigator at that moment. He had found easy going in the long quiet reaches of Glen Canyon above, but ahead was the Unknown in the most sinister aspect it had yet assumed. He was too good a geologist not to read the warning in the changing formations, for he wrote:

> With some feeling of anxiety we enter a new cañon this morning. We have learned to observe closely the texture of the rock. In softer strata we have a quiet river; in harder, we find rapids and falls. Below us are the limestones and hard sandstones we found in Cataract Canyon. This bodes toil and danger.

To none of the later expeditions, including our own, can the menace of the canyons ahead have seemed what they were to the courageous pioneer voyager. We had the same rapids to pass, to be sure; but their positions were fairly well charted. We had ample food supplies and repairs, with replenishments provided for. Powell ran the whole length of the gorges of the Colorado with the shadow of the Unknown just ahead, and all of the Grand Canyon with the specter of Starvation clutching with grisly hand at the steering oar.

After we had run several light riffles and made a tentative survey of a narrow section at which the lofty Navaho Bridge was to be erected a few years later, a heavy roar heralded the approach to what we knew to be the savage Badger Creek Rapid. We came in sight of it twenty minutes later: an uptossed riffle of gray foam (the Colorado's muddy current never froths white) beyond which the river dropped completely out of sight. Pulling in cautiously, we landed in a quiet eddy behind three large rocks, where a clean white sandbar offered an attractive camp.

We were just starting to look over the rapid when a gathering thunderstorm broke in a heavy squall and we were forced to seek shelter under projecting rocks. Thunder is never so impressive as between sheer rocky walls; likewise an incipient cloudburst, especially when it puts down enough water to turn the opposing canyon rims into twin Niagaras. One soon learns to seek his shelter away from low drainage depressions or under those parts of the cliffs stained black by transient storm-fed waterfalls. A deep under-cut cave in the sandstone or limestone is the best shelter, provided it has no back entrance by which the flood might stage an attack from the rear.

Nine tenths or more of the rapids in the Colorado River canyons are formed by dams of boulders washed out of side creeks. If the section where this occurs is a narrow one the barrier will extend all the way across, making the resultant rapid steep and violent. In broader sections there may be room for the river to swing round the outer curve of the boulder fan with a comparatively unobstructed channel. At Badger Creek Rapid the dam thrown out by the canyon of that name had been reinforced and heightened by the cloudburst discharge of a small unnamed canyon immediately opposite.

The rapid appeared decidedly rough as we looked it over where it rumbled and tumbled in the deepening shadows of the cliffy walls above. For two thirds of the way across from the right bank the fall over the boulder barrier was too abrupt and too broken to give a boat a fighting chance of surviving a run. Then a deeper V of hard running water cut through before the impassable boulder wall resumed again. The channel through the V was closely beset by rocks from the very head, while half way to the foot of the rapid it led directly over a shallowly submerged boulder into a hole so deep that the bottom could not be plumbed with the eye. This would have to be avoided after dropping through the channel at the brink of the fall. There were several other places where it was possible for a boat to get into difficulties; but with reasonably good luck and handling there did not appear enough risk to warrant resorting to the only alternative—which had been followed by most previous expeditions—portaging boats and loads over two hundred yards of slippery boulders. The Chief signified that he was willing to risk the boats if the boatmen were game to take a chance at a wetting.

Half the battle in running a rough and rocky rapid is to put the boats into the head at the most favorable place. In many instances that—and keeping the boats head on to the current and waves—is almost all that is necessary. The simplest way to test the set of the current is to toss driftwood in above and watch its course through the broken water. When this was tried as a preliminary to running, the following morning, the drift sent down the V at the head carried straight into the deep hole half way down to the foot. This meant that sharp pulling would be necessary to keep a boat from plunging into what appeared to be a place of certain disaster.

The preparations for the first run were made with great care. All cameras, instruments and the radio set were kept out and carried to the foot of the rapid. The remainder of the loads were carefully trimmed before the hatches were screwed down. Rowlocks were wired in to prevent the loss of oars in case of an upset, the bailing buckets were secured on short lengths of line. Nothing was left loose in the cockpits save the boatmen. The canvas boat was carried to the foot of the rapid and launched to be ready in case of need.

The opening run was far from auspicious. Kolb dropped into the V just as planned, so far as avoiding the big boulder on the left was concerned. He missed this by half an oar's length but failed to reckon with a slightly more deeply submerged rock just below. The *Marble* was not upset or hung up by the obstruction, but the blow dealt the bottom threw it partly out of control and prevented effective pulling. Swung half sidewise, it drifted over a rounded wave and dropped into the deep hole that all the strategy had been directed to avoiding. Almost disappearing in a cloud of spray, the *Marble* appeared an instant later, partly filled but still riding buoyantly. Too far out to make the foot of the rapid on the right where the instruments had been portaged, Kolb pulled in and landed in an eddy against the opposite bank.

The other boats had less trouble. The *Boulder* hit the V just right and pulled away from the rocks with plenty to spare. In drifting down, stern first, to the head, I took the *Grand* a few feet too far to the left and was carried back upstream along

Grand Canyon party at Lee's Ferry

Shooting a rapid in Grand Canyon

the bank. Circling round and pulling out of the backwater, I swung to the middle of the current and dropped down to the brink of the fall again. The abruptness of the descent made the opening impossible to see until one was almost upon it, and then only by standing. Once the V began to open up, I sat down, pulled hard against the current setting over the jutting rocks and slid over the top. The jolt of the first wave was a solid one and there was a real weight in the piece of it that came bounding over the stern against my chest. Missing a stroke or two before recovering, I let the *Grand* swing quartering over the next comber, but had no trouble in bringing its head back upstream again and pulling well clear of the deep hole.

When Kolb came to examine his boat he found that the after hold was several inches deep in water. Investigation showed that the bottom had been holed near the bulkhead, doubtless by the rock hit at the head of the rapid. Sugar, salt, oatmeal and other things not in rubber sacks at the moment were wet, and considerable moisture had penetrated to the supposedly water-tight map cases. Fortunately, none of the sheets of the new survey had yet been transferred to the cases. Had the water entered the latter at any later date the damage would have been irreparable. Because the *Grand* had a stronger bottom than the *Marble,* the map cases were transferred to its forward hold for the rest of the voyage.

Powell had estimated the fall of Badger Creek Rapid at 18 feet. Burchard's survey made it 13. Ours was the first voyage in which the falls of the lower Colorado canyons were measured with precise instruments. From beginning to end the earlier estimates were found to be far too liberal. A guess at the fall of a rapid is almost invariably too high.

The walls of the canyon, which were 730 feet above the river at Badger Creek, increased steadily in height as we proceeded, with an ever broader streak of maroon-chocolate Hermit Shale showing as we penetrated deeper into the great gorge. About two miles below Badger Creek we came to a striking monument of dolomite in the middle of the river. It looked solid enough to be an outcropping of bedrock, but could only have fallen from one of the higher formations. As it is not mentioned by previous navigators, and as the fracture from which it appeared to have come had not weathered greatly, it was probably of very recent origin.

A mile farther along, Soap Creek Rapid announced itself with a thunderous roar, and presently an extensive fan of white limestone boulders completed the identification of a treacherous cascade bearing one of the worst reputations on the Colorado. Landing, we picked a camp site on the right bank a hundred yards above the break of the fall.

There is ample room to portage on the boulders to the right of Soap Creek Rapid, and both of the Powell expeditions had avoided the torrential tumble of rough water in that way. The railroad surveying party of 1889 also portaged their boats around the main fall, but, shortly after launching them in the swirling waters below, an upset occurred in which Brown, the president of the company, was drowned. All subsequent voyagers who had attempted to run the main rapid had met with disaster. This sinister record had given Soap Creek Rapid a bad name.

Anxious to be the first to run this notorious rapid, we loaded our boats with the expectation of making the attempt the following morning. A second survey, which indicated an almost certain upset in the first combing waves of the fall, decided the Chief in favor of a partial carry. Each boat was taken down a hundred feet under oars, lined a hundred feet farther and unloaded. It was then lined, empty, another fifty feet to the head of the portage. This was across round boulders, over and between which large logs were laid at frequent intervals to prevent the sides of the boats from being crushed as they were slid down. It was heavy work, yet not so punishing as it would have been with fewer men available.

The boat was slid down over a five-foot waterfall to a quiet pool at the lower end of the portage where it was launched and reloaded. After it had been backed out of a sort of natural portal between two large rocks, the rapid was entered on the right, just below the two big waves which it was desired to avoid. The next two hundred yards was a rough but not dangerous run. After the fourth boat had been brought down there was still time for a cooling swim and a rest before supper.

Radio had come in as strongly as ever at Badger Creek, but it remained for the thousand-feet-deep section at Soap Creek to furnish conclusive proof of the utter fallacy of the theory that so profound a natural depression could not receive from a distance. Station KHJ had warned us the previous night that it was planning to broadcast us a special lot of messages the evening of August 2. That was the night of our arrival at Soap Creek. In preparation for the gala occasion the aerial was carefully set up with one end on the side of the cliff and orientated on Los Angeles.

KHJ came in clearly promptly at nine o'clock, Mountain Time, with little interference either from static or the crashing roar of the imminent rapid. The lightning of distant thunderstorms was jazzing up the purple wedge of sky between the up-river cliffs but, strangely enough, with scarcely any reaction on the instrument. Baseball scores had come in, and the daily grist of news was half way through when there was a sudden break, followed by a brief space of charged silence. When the announcer resumed, it was to state, in a voice of very evident emotion, that the news had just been received of the death of President Harding in San Francisco. This tragic word was winged a dozen times or more during the next hour, once directly addressed to "the engineers braving the rapids of the Colorado." We had received our special message, though not the one expected.

The first news of President Harding's death was received about 8.15, Pacific Time—perhaps forty-five minutes after the event. Not one in ten thousand of the city dwellers of the country could have had the word at so early a moment.

Colonel Birdseye announced at once that a day of rest would be taken by the expedition out of respect to the memory of the late President. The exact date would be decided later when the day of the funeral was learned over the air. Almost unconsciously the radio had come to be accepted as a regularly functioning unit of the expedition.

Although occasionally affected by heat and local electrical storms, this early primitive portable continued to work just as well when the gorge of the Grand Canyon had deepened to a mile as it did the night it brought us the momentous message at Soap Creek Rapid. That it subsequently failed to pick up the many warnings broadcast advising us to be on the watch for an impending flood was not the fault of this pioneering outfit. It was enjoying a temporary rest while fresh batteries were being awaited.

There is no water for several miles below Soap Creek through which a well handled boat could not to be run without serious danger. The fact that it was an upset which was responsible for the drowning of Brown, president of the company which was planning to build a railway through the Grand Canyon, is ample proof of the utter worthlessness of the boats of his party. The courage of Stanton in continuing with so pitifully inadequate an outfit after the death of Brown is one of the finest things in Colorado River history. We were unable to fix quite definitely the rapid where a second upset cost the lives of two more of the Brown-Stanton party, nor could we be sure of Point Retreat, the place where Stanton cached the remains of his outfit and climbed out on the right side of the canyon.

At noon on the 4th we halted for lunch on a shelf above the head of a long and fairly rough rapid, the walls on both sides of which were so sheer that there was no chance of working along to reconnoiter. From the most favorable vantage point attainable the upper section appeared to be readily runnable; a second riffle, disappearing around a bend below, could only be guessed at. The *Grand,* held back to give a water-level reading to the instrument, was the last boat to run. La Rue, who was casting off the painter, slipped on the smooth rock and all but let us swing off into the swift current without him. As there was no possibility of going back, either by land or river, we never quite worked out how the party would have recovered its hydraulic engineer had he marooned himself.

The canyon displayed points of rare beauty, with the Supai sandstone rising higher and higher from the water, and the Kaibab Limestone and Hermit Shale beginning to form a secondary wall behind. Many caves had been formed by the undercutting of the cliffs. Pulling back into one of these to await the instrument, we lounged for half an hour in its cool depths, singing lustily to while away the time. Amazing mellow-voiced we were, thanks to the softening effects of the cavernous echoes.

The following day, in running a rough major rapid where every previous expedition had portaged at least one boat, I had my first experience of the solidity of the bottom of the Colorado River. A heavy sandstorm was blowing out of the side canyon to the right as I drifted down to the head, and in pulling against it I worked too far to the side and found the *Grand* dropping upon a bad mess of boulders almost under the bank. Hard pulling did not quite carry me back to the channel, and as a consequence a corner of the stern bumped solidly against a rock, allowing the boat to swing completely round. It drove through the next couple of waves bow on and then slid away from the heavy rollers under good control. Pulling across the current of the tail of the rapid, I beached my boat on the left bank, to find that it had suffered no damage from the collision. The *Grand* had the driest run through of any of the boats; nevertheless getting in where I did at the head was not creditable, even in the face of a sandstorm.

On the 6th of August three or four major rapids and a number of riffles were run, in nearly every instance the head of one being in sight from the foot of the last. The total distance made was 3 miles, with a descent of 50 feet—probably the heaviest fall in Marble Canyon.

As the *Grand* approached the second rapid, with La Rue and Moore riding the hatches, Kolb, who had landed to look it over, signaled that it was all right to go on through. It was a straight run down the middle with no chance of hitting rocks—only big water. The opportunity of seeing what the boat would do in really heavy waves where there was no chance of banging it up was too good to miss. Sooner or later it would be swamped anyhow, I told myself, and it would be well to find out what weight of water it would take to do it.

The middle V rolled over smooth and solid, like the brink of a real cataract, and it was not until we were almost at the upflung comber at the bottom of it that I had an inkling of what we were in for. The *Grand* had an easy rise to the first wave, and went through it without tearing more than a bucketful off the top. The next was a side-winder from the right, however, and came banging over the quarter savage and solid. La Rue's writhing anatomy stopped a bit of it, but enough rolled on to fill the cockpit up to the seat. A third wave completed the job and left the gunwales awash. The rest of the rapid we went barging down after the fashion of a raft, with wave after wave sweeping us fore and aft.

As the water was warm there was no particular discomfort. The boat rolled much worse than normally, dipping a gunwale under at every roll; but she was still responsive to the oars and I had no trouble in bringing her into an eddy and up to the left bank well above the head of the next rapid. Ten minutes bailing left the cockpit dry again. The water-tight box under the seat in which our cameras were kept was as good as its name. The experience was a valuable one in giving a line on the boat's limitations in heavy water; also as to its capabilities when filled. Plainly a swamping was a matter of no serious moment—with no bad rocks to be avoided below, that is. To me the incident was distinctly reassuring, though it took some argument to bring my saturated passenger on the after hatch of the *Grand* around to the same way of thinking.

We ran on to camp at the head of a very abrupt and noisy rapid, where seepage from a steep canyon formed a number of clear springs, while a series of hard sand terraces gave good sleeping room. Climbing over the rocks to look at the rapid we found a complete trappers' outfit buried in the sand of the floor of a large cave. Traps, cooking utensils, brace and bits, saw, files, awls, coffee-mill and a number of other things were listed and laid out for photographs. The only article of wearing apparel was a rubber boot. As the cave was below high-water mark, it appeared probable that all the lighter objects had been carried away.

We could only conjecture as to the fate of the trappers. Since there is no record of any such party reaching or passing Bright Angel, it seemed practically certain that they were lost, with their boat, in trying to run the rapid below. Indeed, in preparing to run what it was decided to call Cave Rapid, we had a graphic illustration of what may have happened to the ill-fated voyagers.

Burchard, Dodge and Kolb were just starting to line our canvas boat down the right side of the tumbling cascade, to have it available below in case of emergency, when—due to the painter being slacked too quickly—the little craft carried over a rock, filled and smashed into a shapeless mass all in a few seconds. An hour's work by the whole ten of us salvaged only one oarlock and a mass of kindling wood. We were quite unable to drag the canvas skin from the place where the current had wrapped it round a boulder.

All four boats ran Cave Rapid without passengers. The waves were rough, but after starting in down the middle of the V it was not hard to pull to the right into a big eddy choked with floating driftwood. After that, rapids were scarcely less frequent than on the previous day, but through most of them it was possible to carry all hands. Running a sharp pitch just before lunch, I managed to avoid some of the biggest waves by hard pulling, but in working away from a jutting cliff I had to lean heavily upon my oars. When my right rowlock broke off at the ring, Moore passed me a spare without delay, making it possible to clear the threatening wall of rock.

Running several easy riffles, we came just before noon to one which disappeared around a bend and was divided by the first midstream boulder bar we had encountered. A brilliant patch of verdure against the side of an ampitheater at the right of the bend recalled the leafy bowers of Glen Canyon. A hundred feet farther down the side of another patch of green, shot with gushing jets of clear water, revealed the place as Vasey's Paradise—named by Powell after a botanist associate. The water was too swift round the outer curve of the bend for a landing, but from the bar in the river an effective composition was offered for a moving picture of the boats running the riffle against a background of the sun-brilliant spouts of falling water.

The cliffs below Vasey's Paradise are unrivaled in the whole Grand Canyon series. Delicately rather than brilliantly colored, their subdued pinks and yellows and browns threw back to the depths of the gorge a mellow blend of lilac, pearl and amethyst that had almost the palpable fluency of poured wine. Plummets of sunlight alchemized frequent wedges of swirling water to arrowheads of liquid gold, with saffron motes weaving in a saraband on the wall above in the dusky purple shadows of a cave mouth. Quiet smooth-flowing water gave us opportunity to revel in the veritable symphony of colors undisturbed by navigational worries.

We found cold springs spouting out of the rocks at a number of points. Some of the most ambitious of these had built themselves little turreted houses from the mineral salts carried in solution—real miniature shower baths, with the glint of falling water and the rattle of spray always in evidence as we drifted down past their mist-curtained windows. Grass and flowers were lush and green within spattering range of the flying drops, and it was no end of a delight to ease in from the scorching sunshine of mid-river, to lounge for a few min-

A boat of the Canyon party stranded in midstream

Repairing a boat that was wrecked in Cataract Canyon

utes in a veritable Titania's Bower and perhaps strip for a hasty bath in clear water. When one wears only half a pair of pants, or thereabouts, taking a shower is not a matter of extended preparation.

A huge boulder, planted squarely in the middle of a short but savage rapid, halted us early in the afternoon at a bend which was identified beyond a doubt as Stanton's Point Hausbrough. As the obstruction ahead plainly needed careful study before passing, and as the 10th had been set aside for observance of the memory of the late President in any case, a two-day camp was made on the sandbar opposite the historic landmark.

A series of terrific wind squalls swept the river just after we landed, at the height of which water was blown far up the beach where we were starting to pitch camp. The cliffs were masked with clouds of blown sand and the foam above the wave thrown back from the great midstream boulder was carried high up against the leeeward walls. Black, swollen thunderheads began gathering in the wake of the squalls and the main storm broke just as supper was over.

There was a lively scramble to keep beds from blowing away and sparks from the camp fire setting alight various scattered inflammables. After the wind the rain set in—first in violent squalls, then in a torrential downpour. As no shelters had been set up, everyone did the best he could in improvising for himself. Most swathed themselves in pieces of canvas; some crawled into sleeping bags and covered up; two or three squeezed into the emptied holds of the boats. Probably the best solution was hit upon by those of us who stacked our stuff under tarpaulins and cavorted about in the warm rain *au naturel.*

Of the burial of Peter Hausbrough, drowned about ten miles above, Stanton wrote:

> We stood around the grave while prayer was offered, and we left him with a shaft of pure white marble for his headstone, seven hundred feet high, with his name cut upon the

base; and in honor of his memory we named a magnificent point opposite—"Point Hausbrough."

Although the grave must have been immediately behind our camp, careful search failed to reveal it, doubtless because the talus at the foot of the cliff had been built up a number of feet in the third of a century which had elapsed since the inscription was carved.

The rock-obstructed rapid below our camp was plainly of very recent formation. No mention is made of it in the records of any of the earlier voyagers. There appeared to have been a straight, steep chute here in the first place, and this had been dammed by a great slide from the right-hand wall. Immediately after the slide the obstruction must have extended from bank to bank, doubtless backing up the water for a considerable distance upstream. Then this broke and carried down the looser debris, leaving only the huge block of limestone planted squarely in the middle of a fierce tumble of broken water. Above the rock was a back-thrown wave over ten feet in height; below it a whirlpool almost as deep as the comber was high. On account of the throw-off of the wave an actual collision with the rock itself was improbable, if not impossible; the danger was in an upset which would allow the overturned boat and its boatman to be drawn into the whirlpool below, where an uncomfortably rough and protracted stay would hardly be avoidable.

After the rapid had been looked over from every angle during our rest day, it was decided to run the right-hand channel. The down-rushing chute appeared to divide almost equally upon the great rock, but there seemed to be a greater concentration of current on the side toward Point Hausbrough. We pulled all four boats up the eddy, crossed over and tied up to the right bank two hundred yards above the head of the rapid. Neither loads nor passengers were to be carried, of course. Kolb ran bow first, getting as much way on as possible, shooting down the right side of the V and continuing to pull away from the back-curling wave thrown off by the rock. His boat had a hard slap, as did the *Boulder* which followed, but neither was near to serious trouble.

Blake, running next, evidently failed to get far enough to the right. The *Glen* was driven down against the back-tossed wave, side on, and missed capsizing by a hair. Looking back from above the rapid, where I had just pushed off with the *Grand,* I saw all of the bottom boards of the boat as it was flung on its side; then the flick of a flying oar and the sprawling body of a man silhouetted against the cliff below as it was hurtled through the air. An instant later all had disappeared, and I had to run through myself to learn what had happened. I eased pulling a bit sooner than was desirable after dropping over the brink of the chute, and so came in for a harder slap from the wave than there was occasion for.

The blow was scarcely less solid than that from actually striking a rock, and the geyser of tumbling water inflicting it looked even less friendly rearing up above my head than when seen from the bank. My heavy boat righted quickly, however, and shipped very little water. As it shot past the rock I caught a transient glimpse of the hole below out of the tail of my eye. That was another little corner which did not improve on closer acquaintance, especially with the whirlpool showing off what it could do by bumping a captive log of driftwood up against the rock. The cat-and-mouse game looked as though it might have been going on for a long time. The maelstrom was whoufing with glee and looked equal to keeping its end of the sport up indefinitely; and until it relaxed its hold the only chance the log appeared to have of escaping was through being battered to bits against the boulder. I was glad to pass the outer tips of the indrawing tentacles of the octopus by a comfortable oar's length.

I found the *Glen* right side up in an eddy, with its boatman just finishing bailing the cockpit. He confirmed the impression I had received from above, that the force of the blow on the side of the boat had flung him over the gunwale without touching it. Quite unhurt, he had climbed back aboard after the *Glen* had cleared the whirlpool, replaced a lost oar and pulled into the first quiet water.

Three days more boating took us to and past the mouth of the Little Colorado. There was almost continuously rough water much of the way, but considerable rapids only below the bars of the Nancoweap and Kwagunt. The latter had some really bad waves, apparently much worse than any of those preceding us had encountered. Doubtless an accession of boulders brought down the Kwagunt on the crest of a cloudburst wave accounted for the change. The Little Colorado showed signs of having been in flood, and was still flowing an unseasonably high stream of vile-smelling mud. The main stream was never quite as pleasant for bathing after receiving this sewer-like discharge, the rank, offensive reek of which we were destined to experience on a subsequent occasion of unsavory memory.

There are swift water and a heavy fall to the river all the way from the mouth of the Little Colorado to the head of the Granite Gorge, but only three or four major rapids. We had lively boating on a storm-swollen river all the way down this twenty-mile stretch but no serious mishap. Birdseye was knocked off the stern of the *Boulder* while trying to land through a wiggly swirl, and Moore, intent on geology rather than the river for a moment, narrowly missed being flung from the bow of the *Grand* in a rough little riffle. A long crescent-shaped rapid, falling 21 feet as it banged down against an under-cut cliff, had a threatening appearance, and we looked it over with some apprehension because previous voyagers had been in trouble there. But although we put into the head on the crest of a rising flood and into the teeth of a violent sandstorm, partly filled cockpits were the worst of our difficulties.

We reached the head of the old and long disused Hance Trail four days in advance of the time our pack train had been ordered to come down with fresh supplies. The interval was taken advantage of to send out to El Tovar and have new and stronger oarlocks made in anticipation of rough work in the Granite Gorge below.

Hance Rapid, with 28 feet of fall in its upper section, was the worst looking place we had yet encountered. There were many rocks peppered about below the head, with most of the current setting into a villainous nest of boulders and a deep hole near the foot. From here continuously broken water ran on into the second section of the rapid, which in turn wound down and disappeared into the black cliffs at the head of the Granite Gorge. Trouble in the mess of rocks of the upper fall held the unpleasant possibility of a continued excursion on into the sinister depths of the sheer-walled chasm below, where landings of any character were few and widely separated.

As far as our records showed, no previous expedition had run all of its boats through Hance Rapids. The portage being a long one, and conditions for lining down the side almost impossible at the present stage, running seemed well worth chancing, especially as we had the mules of the pack train available to carry our loads down. The decision proved well justified. The emptying of the holds of the boats made an unbelievable difference, not only in their responsiveness to the oars but also in their ability to ride over waves which otherwise would have buried them. It gave one rather a better feeling, too, to know that there would be a thousand pounds less behind the impact in case of striking a rock, and that in the event of a smash-up there was nothing much of anything to be lost but the oars.

It was a fine sporting run. None of the boats was near to trouble save the *Marble,* which teetered giddily along the brink of the deep hole at the right and failed to make the landing at the end of the portage on the left. Lint, who was riding through with Kolb to help in case of an upset, reported that the depression was so deep that he could barely make out the bottom as the stern of the *Marble* overhung it in shooting by.

After a day spent in going over our boats, we pushed off again on the morning of August 21. The lower riffle of Hance Rapid, in which there had been many an upset, gave us no more than a good splashing. A light drizzle of rain was falling as we entered Granite Gorge, but even with that the walls had a less sinister aspect than one expected after Powell's description. An impression of that kind is largely psychological, no doubt. Powell, with dwindling, half-spoiled supplies and battered boats, was facing both starvation and the Unknown; we, with a fully equipped outfit, were pushing on for the foot of Bright Angel Trail with the prospect of a three days' rest at El Tovar Hotel on the rim. No wonder we had eyes for the gleaming brightness of quartz, feldspar and mica where the pioneer explorer saw only the forbidding loom of dark walls of igneous rock.

A mile in heavy swirling water took us to the head of the famous Sockdologer Rapid. Landing two hundred yards above the first fall, we climbed down along the right-hand wall to the nearest point attainable to the brink of the opening drop. Powell's and Dellenbaugh's estimates of a fall of from 80 to 100 feet in a third of a mile, with waves 30 feet high and spray dashing double that height, prepared us for something on a big scale, though we knew in advance that these figures were rather liberal. The fact that this was the first major rapid where the impossibility of climbing round made it necessary to carry the whole party on the boats lent an added interest to the Sockdologer.

The initial fall proved extremely abrupt and the waves below this very high. But it was all deep water in mid-channel, with the combers by no means so sharp and broken as when underlaid by boulders. There was plainly no such menace in the rapid as in the Hance and several others already run where the fall was over rocky obstructions. As there was no chance to land to set up rods or instruments for nearly a quarter of a mile, some difficulty was experienced in running the survey line, but this was finally accomplished.

Blake and Kolb ran through with one passenger each; Lint and I with two. The height of the waves was greater than any we had previously seen, but their evener run gave the boat just enough time to lift over them without burying itself, as in the broken water of boulder-formed rapids. La Rue was not much splashed on the bow of the *Grand;* Moore, on the bow hatch, was bone-dry. Not more than the usual amount of water came over the side to drench me and the cockpit. There were only three or four inches covering the bottom boards when I pulled into an eddy under the left-hand wall at the foot of the rapid. All in all, the run through the Sockdologer was the best sport from a boatman's standpoint of any of the voyage—partly because of the great height of the waves and partly because we knew there were no rocks under them to bother about.

Burchard, pulling in with the instrument for lunch, announced the fall of the Sockdologer as 19 feet; less than a quarter of Powell's original estimate. My own rather vague impression of the height of the waves was from 10 to 12 feet; some of the engineers, with a better chance for studying them and trained eyes for estimating, were inclined to think the largest combers were higher from trough to crest than the lengths of the boats—perhaps 20 feet.

The Grapevine Rapid, a few miles below the Sockdologer, was of much the same character as the latter and gave us similar exhilarating runs. The fall was given as 16 feet. The remainder of the run to the mouth of Bright Angel Creek proved lively but not difficult boating.

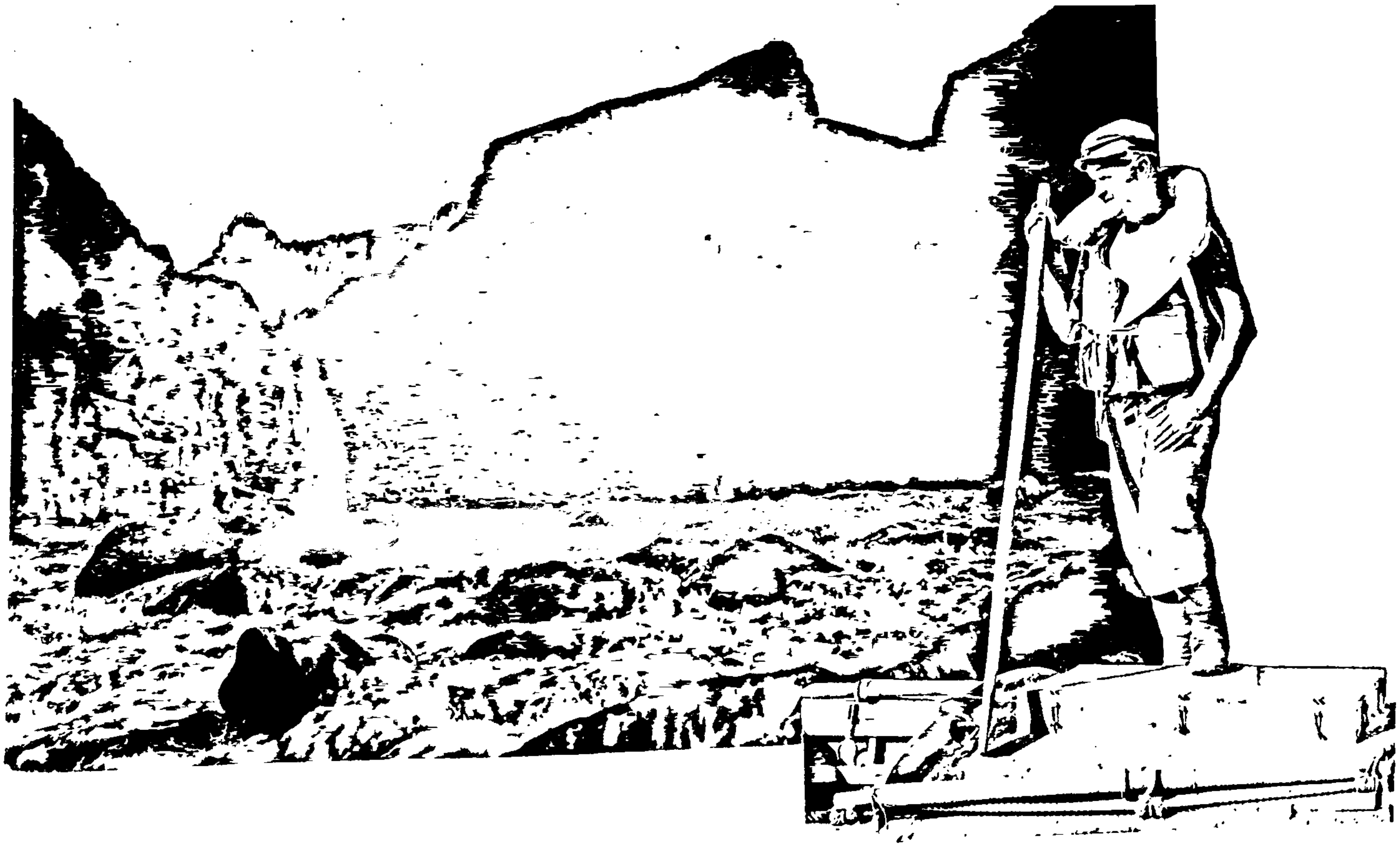
Hydraulic Engineer Dudley of the United States Geological Survey Gauging Station stated that the river had a flow of 25,000 second-feet on the day of our arrival: 3,000 second-feet more than on the day of our departure from Lee Ferry. A few days previously it had been as high as 34,000 second-feet, probably the most considerable volume any expedition has experienced in the Upper Granite Gorge. As far as we could judge, however, the unseasonably high water, contrary to expectations, had been a help rather than a hindrance to navigation.

* * *

After three days at El Tovar the voyage was resumed from the Bright Angel Suspension Bridge on August 27. Hermann Stabler, Chief of the Land Classification Branch of the Geological Survey, joined the party the following day, remaining with it to the end of the voyage. Personally and technically he was a valuable addition to the expedition.

The 70 miles of canyon between Bright Angel and Havasu Creek—the lower boundary of the National Park—were marked by frequent major rapids, many of them of considerable violence. In spite of the fact that most of the previous navigators had met with serious disasters in this rugged stretch of gorge, our good luck held and mishaps were largely of a minor character. Blake's boat had a severe bumping after being carried into a whirlpool at the savage tumble of Horn Creek Rapid. Monument Creek Rapid, with 19 feet of fall, and Hermit Creek, with 16, gave us fine slap-banging runs, but nothing worse than good soakings. Hermit Creek, the one major rapid in the Grand Canyon readily accessible by trail from the rim, was run in the presence of a large and distinguished gallery from El Tovar, rather a novel experience for both parties.

A heavy rapid below Serpentine Creek—probably the one which Stanton characterized as "the worst and most unmanageable on the river," and where his *Marie* was smashed beyond all hope of repairing—furnished a bumpy run but no trouble. Walthenburg Creek Rapid, where another boatman Kolb upset with serious damage to one of the boats, gave us some hard work in pulling in sharply enough to pick up our passengers.



Looking over Lava Falls before the final run

Not far above Tapeets Creek my poor judgment in running almost into the middle of a viciously tumbling rapid brought the stern of the *Grand* into solid and violent collision with a very firmly planted boulder. That the boat did not telescope is an excellent testimonial to the strength of its construction. I had the impression that it actually bounced back upstream from the violence of the impact, but it probably no more than stopped dead in the bottom of the hole where the boulder lurked, while water surged over from all sides.

As it had no load in the holds at the moment, the *Grand* rose buoyantly with a half-filled cockpit, and I had no trouble in bringing it in to the beach at the foot of the rapid. An incipient leak from a crushed-in quarter was effectually closed with a patch of canvas and white lead. A lusty wallop on the nose by the handle of a back-kicking oar at the instant of striking was the only violence I suffered personally as a penalty for a collision which should not have been allowed to happen.

The distinction of the first upset fell to Kolb while trying to run a rough and hitherto unnamed rapid a few miles above Havasu Creek. It occurred as a consequence of allowing his boat to be drawn into a deep hole under a large boulder, where it capsized, cupping him under the cockpit. He bobbed up a hundred feet farther down and climbed out on the bottom of the overturned boat. With the assistance of Dodge it was brought to the bank three hundred yards below the foot of the portage, and subsequently lined back. The event was commemorated in the name of the rapid—"Upset."

At the mouth of Havasu Creek twenty Havasupai Indians packed down 800 pounds of provisions for the long stage to Diamond Creek. Here a new cook joined us to replace one who had asked to be relieved some weeks previously. The radio set was sent out for repairs, to be brought back to us at Diamond Creek.

Pushing off from Havasu with deeply loaded boats on the 15th of September, three and a half days in a river with the lightest average descent yet encountered brought us to the head of the rapid called Lava Falls. The skies had been clear most of the way, but violent wind squalls indicated that equinoctial storms were gathering to break on the lofty plateau region behind us. If the radio set had been with us we would have received numerous messages, broadcast from several stations in response to wires from Washington, warning us that one of the heaviest storms of recent years had broken upon the basin of the Little Colorado, and cautioning us to be on the lookout for the waters of a very heavy flood. Having received such warnings, we should unquestionably have picked out a broad open section, with ample room to back away from a rise, and waited for the run-off to pass. Unwarned, we were surprised at a time and place that were far from favorable—twilight on the brink of Lava Falls.

As the boulder barrier at the head of the rapid offered no runnable channel at the stage at which we found it, the boats were lined down the right side of the most violent section to a narrow crescent of beach below. Beds and cooking outfit were left at the head of the falls, where a few patches of sand among the boulders offered the only feasible camp site. The rest of the cargo was carried down to the boats and restowed in preparation for an early start on the morrow. The portage was completed an hour before dark.

Immediately after supper it was noticed that the boats were awash at their moorings, and a few minutes later the beach upon which they had rested was completely submerged by the rising river. There was no place but the sharply sloping hot springs formation on which to pull them up, and they soon began banging heavily as the waves from the rapid increased in weight. The *Grand* was in the worst position, being immediately under a ten foot wall of travertine, with boulders all about.

I buffered the *Grand* off the rocks with driftwood until the water was mid-thigh deep, and then crowded her in to take her chance with the other boats. Meanwhile it had become evident that a better mooring place would have to be found at once, as there was room for not more than one boat upon the shelf, to which the water had now risen, and only an empty one could be handled even there. This would have to be the cook boat, *Marble,* because the other three were heavily loaded.

It was now quite dark; all chance of seeking a safer mooring by daylight had been lost. The rest was a night job. Lint and Kolb pushed off in the *Boulder,* the former carrying an acetylene lantern and the latter pulling cautiously down the eddy beside the lower end of the rapid. The rest of us were kept busy pulling in the three remaining boats and preventing them from being destroyed by banging against the rocks in the waves resulting from the rising and broadening cascade. Lint and Kolb returned in half an hour to report that they had left the *Boulder* on a sloping beach of limestone a third of a mile below, and to recommend that the *Grand* and the *Glen* be taken down there at once.

Kolb rode with me on the bow of the *Grand;* Lint with Blake on the *Glen.* The moon was shining on the opposite wall and a part of the rapid. The latter had lengthened greatly and was booming louder every minute. The illuminated strip of rollers was a ghostly gray, and the effect curiously like that of wind-billowed canvas. We ran as close as we dared to the left bank of travertine, over which streams from the hot springs were falling, gleaming white in the reflected moonlight. There was not much current in the eddy, but a heavy lop from the main chute of the rapid splashed against, and occasionally into, the boat. A distinctly unpleasant odor to the water suggested that the flood was coming from the Little Colorado, the founts of which we had already discovered were olfactorily offensive. Mingled with this was a humid, almost tropical smell—rank vegetation and a suggestion of the perfume of flowers.

It was a weird and eerily stirring rather than a wildly exciting ride. Once or twice we were caught by the powerful downrush of the rapid, but a stroke or two brought the boat back to the half-water on the verge of the eddy. As we doubled cautiously round a jutting point a new roar from down-river cut into the heavier boom of Lava Falls. Evidently we were nearing a second rapid not far below where the gleam of the tail of the first was quenched in the shadow of a moon-blotting cliff. Then a cove opened up to our left and I pulled into quieter water and beached the *Grand* beside the *Boulder* on a sloping shelf of travertine.

There had been no chance to get my bed in the rush of pushing off, so I took a lantern and started back to camp as soon as the boats were secured. It was vile work pushing across the slushy, crumbling springs formation, with a tangle of rotting vegetation underfoot, and huge thistles and saw-edged grasses that grew higher than my head. These prickers and cutters were particularly unpleasant as a consequence of the fact that my sole protection against them was half a pair of knickers and one tennis shoe. After fording three or four warm streams, I finally broke through to clearer going, but even here there were half a dozen breeds of cacti to complicate my nocturnal navigation. The last hundred yards was along the cliff and over boulders among which the rising flood was already beginning to swirl. There was zest and exhilaration in the blind ride in the half-moonlight down the edge of the booming rapid; the tortuous tramp back through the dismal swamp of the hot springs was sodden grief all the way.

In my absence the *Marble* had been dragged several feet above the rising water, but the spray was already beginning to dash over her again as the mounting waves banged higher and higher against the canyon wall. I found everyone in camp engaged in moving away from the encroaching flood. We had hardly turned in before it was necessary to scramble back over the boulders and give the *Marble* another hoist with the block and tackle. Then we had a rest until an ambitious wave came up and surrounded the bed of Felix, the new cook. The surprised sleeper awoke in such consternation that he fled forthwith, leaving bed and clothes behind in the water. Birdseye and Dodge salvaged the sleeping bag and Felix was put to bed again on higher ground.

By morning the water was up to our feet, where we had rolled in after the final move to the last bit of beach under the mesquite. The rapid had altered in character overnight beyond belief. The head of the dam of lava boulders, where the previous day there had been a series of abrupt falls, was now completely submerged—drowned out. Over it rushed a broad, solid chute of wildly running water which did not begin to break into waves until half way down what had formerly been the rapid.

From there on the combers were tremendous; quite the largest we had seen. These culminated in an enormous uptossed mass of churning, surging water just above where the boats were moored: a point at which yesterday there was only a swift but comparatively smooth stretch of current. This wave was a great boil or fountain, which at times measured all of from 15 to 20 feet from trough to crest. It appeared to be caused by conflicting currents rather than by a rock, and rarely assumed the same form twice in succession. At times, in breaking back, it cupped down a large quantity of air, which, when compressed, threw out jets of spume like that from a cavernous blow-hole on the ocean shore.

A continuous procession of drift logs of great size was moving down the river, some of the largest trees being upended and sucked down in whirlpools or, again, almost tossed out of the water. It looked barely possible that a boat might survive an attempt to run through the rapid, but only if it could be kept away from several of the largest waves.

The river had risen 14 feet during the night, to which 8 feet more was added during the day. The hydraulic engineers of the party estimated the flow at from 75,000 to 100,000 second-feet. We learned subsequently that it had been over 125,000—considerably greater than that of the spring rise. The *Marble* had finally to be hoisted up an almost sheer wall to keep it clear of the climbing waves. The other boats, after being unloaded, were more easily handled.

After a three days' halt to allow the flood to recede, we pushed off again on the morning of September 22. The increased weight of the water was evident the moment we were well into the current, and when it began to slop aboard in running the riffle under the cliff below it proved to be a veritable liquid mud. A splash of it left a white coating on the skin as it dried, while the effect on the eyes was almost blinding. There was the same heaviness to the swirling water noted after previous rises, only much worse, so that the boats were more unmanageable. The run of water from riffle to riffle was almost continuous, and it was not easy to pull into an eddy for a landing.

Many hitherto unmapped side canyons and a formation almost continuously broken and faulted retarded surveying greatly after leaving Lava Falls, and even by running two instruments we were not able to make up for the time lost in waiting for the high water to go down. In spite of most favorable boating conditions, we were four days behind schedule in arriving at the mouth of Diamond Creek. This, and the reported sighting of an overturned boat marked U.S.G.S. below the canyon, was responsible for the sensational dispatches sent out on the wholly unwarranted assumption that the expedition had met with disaster. The highly flattering "obituaries" appearing about some of us proved entertaining camp-fire reading, but the dispatching of the "relief expedition" at one time seriously discussed could not but have given us troublesome rescue problems of our own.

Navigation became more arduous below Diamond Creek. Three days of rough boating in a river with an average fall of over 15 feet to the mile brought us to the head of historic Separation Rapid. The place, with its large canyons coming in opposite each other, was unmistakable from the descriptions of Powell and Stanton. Here, according to Powell's story, three members of his 1869 party, believing the river expedition was doomed to disaster, deserted and climbed out to the plateau by the canyon from the north. After seeking in vain for a practicable portage along the sheer cliffs, Powell put into the rapid with two of his three boats and went through without an upset. The three men who left were killed a few days later by Indians, though their fate was not learned for many months.

We had no more success than our predecessors in finding a way by which those not needed in the boats could climb round the rapid. Even Dodge, the rodman, who was all but fly-footed when it came to cliff work, gave up after a persistent attempt to get by. The left wall proved to be sheer, though only about five hundred feet in height, rather than the thousand estimated by Stanton. The right wall was more broken and not so high as the other, but still offered no chance to climb around more than the first riffle. It is probable that Powell, at a much lower stage of water, had found it practicable to portage his boats along the upper section of this wall.

As I went back to the head of the rapid to take pictures of the two canyons and other features described by Powell, I saw only one of the boats run. On being told that Kolb had carried dangerously near to the right-hand cliff, I decided to take a chance at putting into the heavy water at the head of the second riffle. This, I figured, would leave me more leeway to avoid the obstruction on the right.

The head of the second or main riffle of Separation Rapid is the place of which Stanton wrote: "As I looked down into that pit of fury, I wondered if it were possible for our boats to go through it and come out whole, and right side up." A few seconds after that impression was registered, Stanton was in the water and his overturned boat had a hole in it.

Somehow the notorious rapid had not looked as bad as that to me, which was rather unfortunate. Had I been a shade less confident of the ability of the *Grand* to ride any waves not fanged by rocks, it would have been easy to pull to the right of the heavily running combers at the head and fight it out with the current setting against the right-hand cliff, as the others had done. Instead, I tried only to keep the stern well on to the main line of waves on my left, and so allowed the boat to be caught quartering by a sneaking lump of a comber lying in ambush on the other side. An easy, effortless uplift, the flip of a foam-flecked crest at just the right instant, and the trick was turned. The supposedly uncapsizable *Grand* was bottom up.

My only mental picture of the incident has to do with La Rue's thin legs spidering against the sky as he spilled off the stern hatch, all but falling into the cockpit. Then darkness and much rolling and tumbling of water. To keep from being cupped under the cockpit, as Kolb had been in his upset above Havasu, I let go my oars and tried to dive. In this I was materially assisted by the down-dragging swirls, for when I started back to the surface it seemed to have become misplaced. I could not locate it, in any event.

The several succeeding seconds were as active as unpleasant. I pawed red water and gulped red water, but didn't seem quite able to bring the surface down where I could use it. Finally a violent swirl carried me to the top, only to suck back my protesting anatomy so quickly that the breath of air I tried to get ended in a bite of water. This time the submergence was brief, and as my head came up again I managed to gulp a lungful of mixed air and spray.

The bottom-ward pull was still strong though intermittent, and my head continued to duck under now and then as I lunged off after the boat, drifting ten or fifteen feet downstream of me. I had the feeling that my saturated kapok jacket was giving very little support, but this may have been due to the drag of the current on my heavy hobnailed shoes. Moore, minus cap and glasses, was towing comfortably by one of the life-ropes, rigged against just such an emergency. La Rue was not in sight. The phenomenon of the right-hand cliff seeming about to topple over on us as the boat was carried under it was a bit disturbing, because one could have no illusions as to which would get the worst of it in the event of a collision. The disappearance of the ominously looming wall and a throaty croak from the other side of the boat announcing that La Rue was still a passenger disposed of the salient worries of the moment.

A splash and a quickening of motion signaled the entrance to the third riffle. From above, squarely in the middle of this, the current had appeared to break in a broad low wave over what must have been a large flat rock, fairly well submerged at the present high stage. It hardly looked capable of precipitating a violent smash at the worst, yet I was relieved to see that our derelict was giving it a wide berth to the left. The boat danced at a merry pace on through the rest of the riffle, but not in a way to make it at all hard to hold on.

Moore and I climbed up on the bottom of the boat as soon as it floated into quieter water, but as La Rue appeared somewhat dazed it was not practicable to attempt to right her in midstream. This was accomplished as soon as Blake and Dodge, on the *Glen,* had worked us into an eddy against the left wall. Bailing hastily, I replaced a lost oar and pulled across to a beach on the opposite side to dry out. The little water that had entered the holds had done no harm to instruments and maps in their tight cases, nor even to an unprotected sack of sugar. The only losses of moment were Moore's glasses and several irreplacable geological specimens, loose in the cockpit at the moment of upset. My missing oar was picked up a few miles below and restored to its mate with which it had worked all the way from Lee Ferry.

Lava Cliff, rated by Stone as the worst in the whole Colorado canyon series of rapids, was passed by an intricate and laborious piece of lining on October 11 and 12. As far as the records show, Powell's first party was the only one that ever attempted to run this savage tumble of waters, and this was done in an effort to save a boat that had to be cut loose while lining. Possibly the cloudbursts of the intervening half century have piled up boulders to render the obstruction more formidable, for it would seem that an undermanned boat would have short shrift there today. At any rate, none of the parties following that of the pioneer have seen fit to take the chance.

Burchard, the topographic engineer who was handling the instrument in running the river line, was the victim of two bad falls the day we left Diamond Creek. In the first, when he was precipitated upon a barrel cactus with fishhook spines, he was saved from injury through the fortunate circumstance of having used the leg of a discarded boot to patch the seat of his trousers. In the second fall he landed upon the corner of his instrument box and fractured a rib. Although in much pain at times, he stuck gamely to his work, and, on October 13, was rewarded by picking up through his lens a little pyramid of white stones on a jutting point ahead. It was the monument marking the highest point reached by his up-river survey of 1920. When the two surveys were tied in, their elevations were found to check within four feet.

There were many splashy rapids remaining below us, but none which could not be run without a preliminary reconnaissance. With the survey completed, progress accelerated at once. We ran out of the Grand Canyon on the first day, and by noon of the fourth day from the Grand Wash the boats were tied up at the bar above The Needles. To my boulder-battered *Grand* fell the honor of being shipped to Washington for permanent exhibition at the Smithsonian Institution.

THE END

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